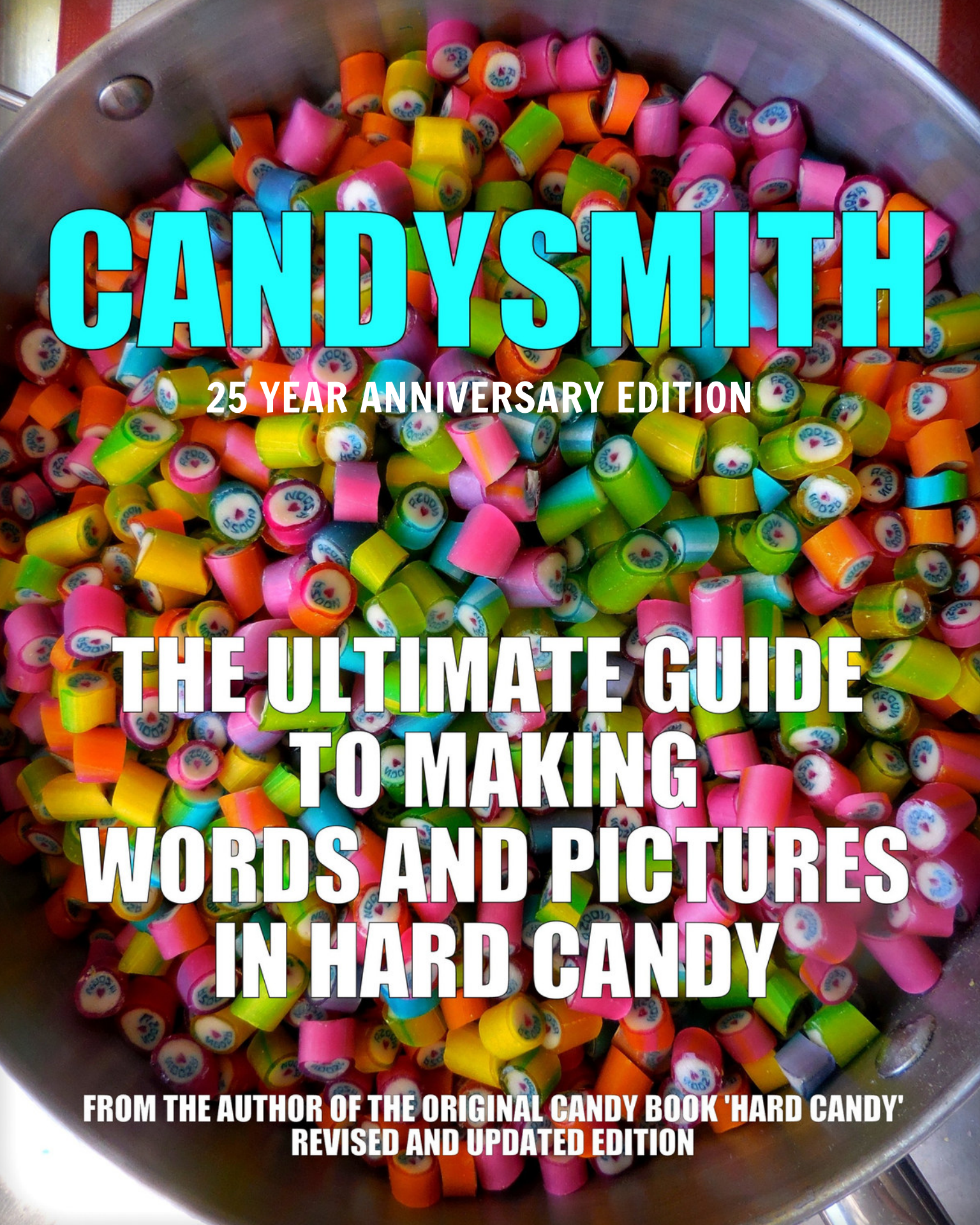
CANDYSMITH
25 YEAR ANNIVERSARY EDITION
THE ULTIMATE GUIDE TO MAKING WORDS AND PICTURES IN HARD CANDY
FROM THE AUTHOR OF THE ORIGINAL CANDY BOOK 'HARD CANDY'
REVISED AND UPDATED EDITION

kaptonhook

CANDYSMITH

25 YEAR ANNIVERSARY EDITION

The ultimate guide to making words and pictures in hard candy. Including recipes, equipment, blueprints, candy plans and step by step instructions from boiling sugar right through to making custom candy orders. With updated recipes, more detailed photos and new plans, this book is a must-have for any artisan candy maker.

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Introduction

A journey begins...

I never wanted to work in a kitchen. However, as a result of various circumstances, I chose to put down my camera and paint brush, find a 'real job' and actually make some money to pay the rent, bills and various party expenses. That decision was to become a turning point in my life I did not recognise at the time as I washed the dishes in one of Melbourne's busiest restaurants. It was not long before I escaped the sink, and worked as storeman, pizza cook and then apprentice to some of the most inspirational and hardest working chefs I have ever met.

Working alongside those seasoned chefs and experimental cooks in various restaurants, cafes, country houses, corporate caterers and wholesale pastry kitchens was teaching me far more than simply cooking or plating up a dish. It was a kind of rebirth by fire, and any cook who has stood out the back of a kitchen at midnight after a perfect 300 cover service will know the feeling of having faced and overcome a very challenging situation. Those lessons will stay with me forever. Now 25 years later, as I continue to train new candy makers around the globe, I hope to teach more than candy making. I hope also to pass on these lessons, the attitude of being able to face a challenge with confidence, and of being prepared to improvise, adapt and overcome. The last 25 years have been challenging and rewarding - there have been some extreme times - but this is what makes me feel most alive.

I have worked with pans of fire being thrown in my direction, worked countless days of 18 hour shifts with no breaks, consumed literally thousands of coffees... I have seen beautiful moments of synchronicity in the kitchen and also moments of complete chaos and extreme temperaments.

Yet one thing is a constant through all the kitchens I have been in, big or small - knowledge is passed on. A great chef will share all that he or she has learned over the years with eager, excited, and probably very tired young cooks, without ego or secrecy. Knowledge that was passed on to them from great chefs or cooks around the globe, or were skills they developed themselves, with trial, error and finally reward. That knowledge now passes on to domestic kitchens, as world famous chefs demonstrate their skills and knowledge online and in countless books.

As an artist and teacher, I can only hope that others find inspiration, information and guidance in this book, and they too can go on to inspire others.

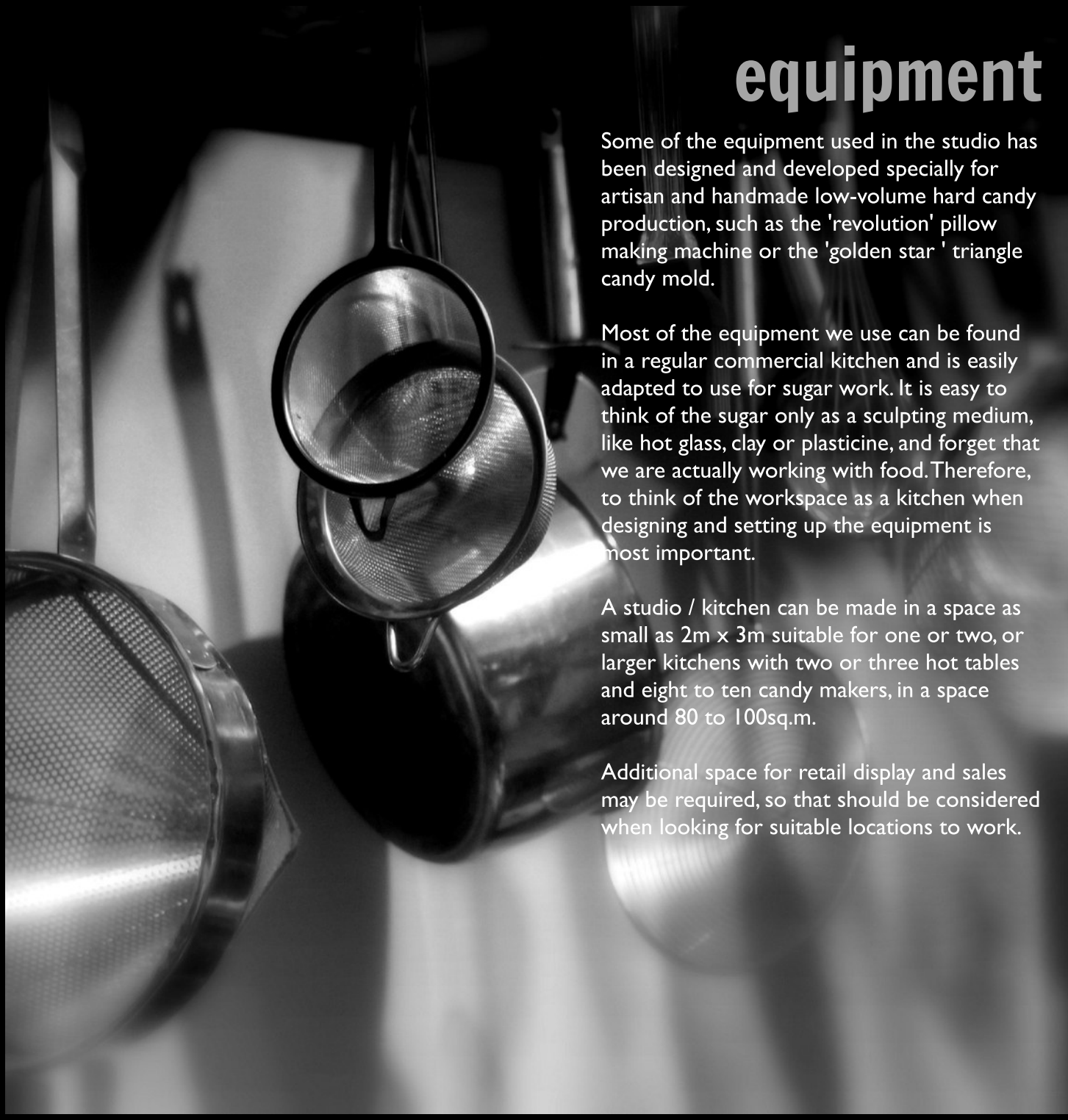
Damian.

what is going on?

Before we start boiling sugar and making anything at all, we need some equipment and ingredients. Yet, to understand what equipment is required, and best suits your needs, it is important to have an understanding of the process. So, basically, this is what's going on:

Sugar, glucose and water are boiled together in a pot, until the desired temperature is reached. At this point, the stove is turned off, flavour is added, and the sugar mass is poured out onto a cooling table, marble slab, or alternative. Various colours are added to the hot sugar, which is then cut or divided into sections and cooled until it can be handled, before being moved to a heated table where the coloured candy is kept hot and soft. It is on this heated table that most of our work happens, as we shape and sculpt the sugar, as per the requirements of the order. When the candy is finished and ready to be stretched, the large cylinder of candy is stretched by hand into a long rope, cut into shorter lengths of candy and rolled on a steel kitchen bench until they cool and harden. The rods of candy are then cut by hand into small pieces, and stored or packed for sale.

So, with that process in mind, we can consider some of the equipment that is required. It is important to be constantly looking for ways to improve the process, to look for new ideas, new flavours, new equipment designs. As somebody who wants to make hard candy, I would imagine that you have a creative and open mind, and will find it a satisfying and rewarding challenge to design and build your own equipment.



equipment

Some of the equipment used in the studio has been designed and developed specially for artisan and handmade low-volume hard candy production, such as the 'revolution' pillow making machine or the 'golden star ' triangle candy mold.

Most of the equipment we use can be found in a regular commercial kitchen and is easily adapted to use for sugar work. It is easy to think of the sugar only as a sculpting medium, like hot glass, clay or plasticine, and forget that we are actually working with food. Therefore, to think of the workspace as a kitchen when designing and setting up the equipment is most important.

A studio / kitchen can be made in a space as small as 2m x 3m suitable for one or two, or larger kitchens with two or three hot tables and eight to ten candy makers, in a space around 80 to 100sq.m.

Additional space for retail display and sales may be required, so that should be considered when looking for suitable locations to work.

it all starts with a little pot...

Pots for sugar boiling should be of commercial quality with strong handles for lifting and pouring sugar, and have a well fitting lid. They can be stainless steel, copper, aluminum or cast iron. The pots should have a thick, heavy base to prevent the sugar burning. You should have at least two pots of suitable size for the work you are doing. One pot can be cooking while the other pot is cleaning, and if you have three pots, then another pot can be already prepared and ready to boil. It is therefore important to keep a variety of pots in the kitchen.

You should have:

Smaller pots for 2kg - 4kg batches (200mm x 250mm) 7 litres to 12 litres approx.

Medium pots for 6kg– 8kg batches (240mm x 300mm) 12 litres to 20 litres approx.

Medium and large pots for 8kg – 12kg batches. (300mm x 350mm) 20 litres to 30 litres approx.

Pots can be found at restaurant auctions and at catering suppliers that sell used commercial equipment. I have bought several large stock pots in perfect condition from these sales which were ideal for 14kg+ batches, saving hundreds of dollars.

The pots should each have a well-fitting lid. A lid can be used to bring the sugar to boil more quickly, but must be removed no more than one minute after sugar starts to boil.

After the sugar is poured out onto the cooling table or into size control pans, water is added to the pot, the lid replaced and the pot placed back on the stove on a low heat. The steam inside the pot will clean the sugar from the base and sides of the pot.

A wide opening pot will reach temperature faster due to the increased surface area of the boiling sugar, which allows for faster evaporation of water. The sugar, glucose and water should come only half way up the pot, as impurities in the sugars and glucose can cause foamy bubbles to rise up as the mixture boils and possibly rise over the edge of the pot, creating a very unwanted mess, and smaller volume batches can be too thin in a large pot to boil evenly and can easily burn or crystallize, so we need to use the right pot for the volume of sugar we are boiling.

We can split a batch into 2 pots and boil them at the same time, to reduce cooking time. For example, rather than cooking a 6kg batch in 1 pot and taking 50 minutes to cook, split the batch into 2 X 3kg batches. You can use smaller pots and reduce cooking time to around 25-30 minutes.

Ready to go... 2 stainless steel pots on a gas stove during a training course in Quito, Ecuador.

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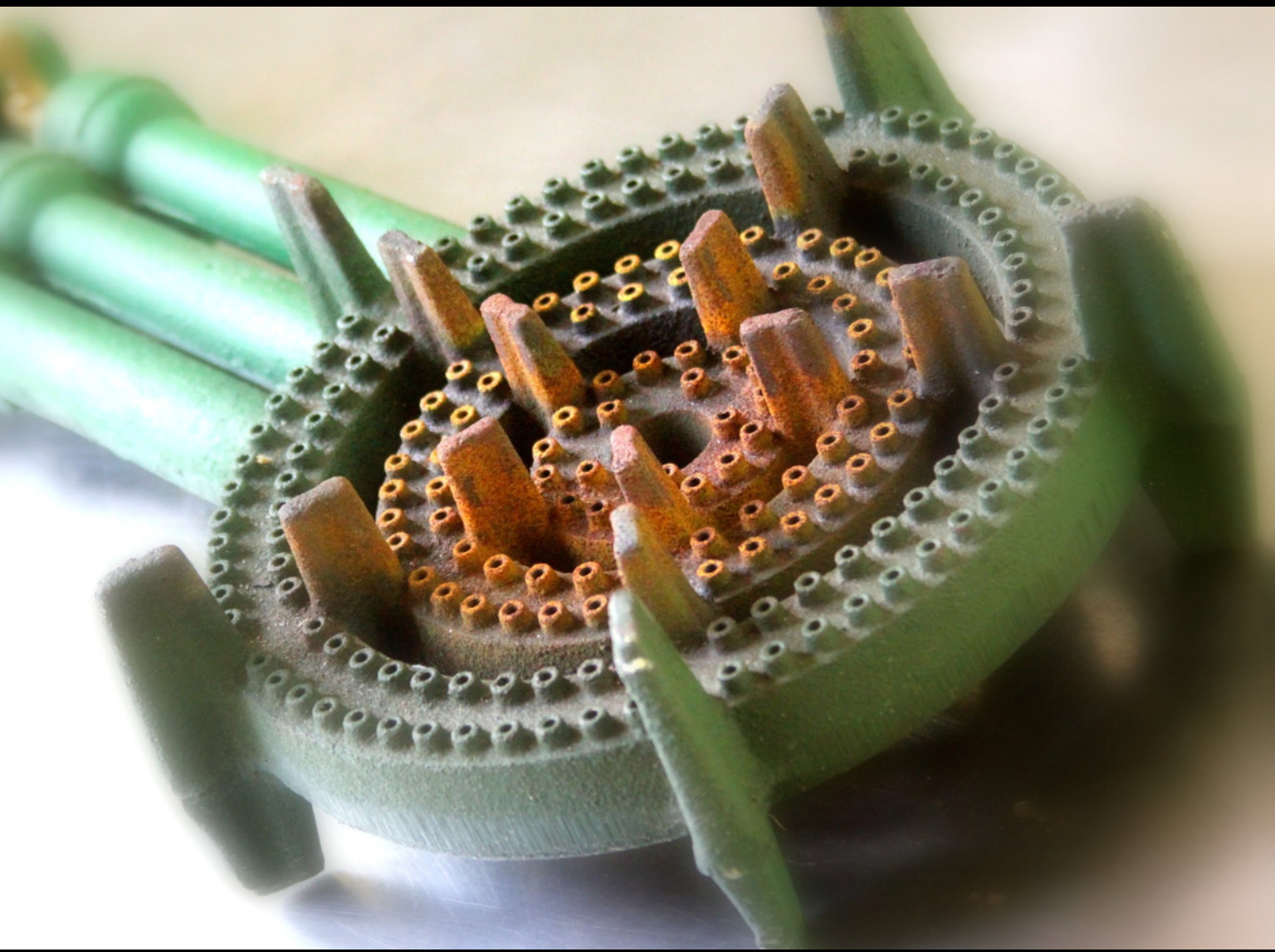
the STOVE / COOKING

A solid commercial two-burner gas stove is perfect for boiling sugar. They are very heavy duty and will last for years, as well as being easy to clean and having a high heat output. They can be found at auctions and catering suppliers. Some will require special gas connections, so it is important to consider your kitchen's gas supply when looking for a commercial gas stove.

Domestic kitchen stoves generally do not have the power to boil sugar. If the sugar takes too long to reach the desired temperature, it can discolour and turn a light or even dark caramel brown colour (look up 'Maillard reaction' online for more information).

The sugar should be boiled on a high heat that can be easily adjusted if necessary. If there is no choice but to use a domestic gas stove, split the batch (eg. 6kg) into two pots (2 x 3kg) and boil 3kg in each pot.

A three-ring cast-iron burner (pictured) can be used with one, two or all of the rings going, and can be used for smaller 1kg or 2kg batches as well as larger 10kg-12kg batches. We use two of these three-ring burners to allow for one pot to be cooking and the other to be cleaning at the same time.



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Appropriate ventilation / extraction of gases should be considered and added to the kitchen (above the stove).

There are many alternatives to a commercial stove, so if cost and size are an issue, a cast-iron camping stove can be found at a camping or outdoor store for as little as US$50.

Induction cookers have also been used with great success. In places where using gas is a problem, an induction cooker can provide a very fast boiling time without any of the fumes produced from using gas. It should be noted that specific pots are required for induction cooking.

The pot should not extend too far over the sides of the cooker, as uneven cooking will result in higher chances of crystallization and poor, inconsistent results.

A 2000 watt induction cooker can be used to boil 1kg or 2kg test batches of candy, but larger volumes of sugar may take too long to reach the desired temperature, and will most likely discolour. A 3000 or 3500 watt induction should be used for larger 4kg+ batches of candy.

Electric halogen cookers are very powerful and can easily boil up to 6kg batches with no discolouration. They are also suitable for a variety of pots such as cast iron, aluminum and stainless steel.

the POURING / COOLING table

This is the table that the boiled sugar will be poured onto to cool. Colour, acid and any gourmet ingredients are added to the sugar on this table. The surface of the table absorbs the heat energy from the sugar and the candy cools, becoming thicker and increasing viscosity. It is then ready to be cut into various required sizes and moved to the hot / warming table.

Bars on the table are used to control the size of the area we pour into, and keep the liquid candy at the best thickness and allow enough time to add colours before the candy cools too much, after which it is difficult and a little messy to add colour. Bars can be solid steel, tube steel or angle steel.

The table should have tabs welded around the edge of the frame to stop the size control bars from falling to the floor and all the hot sugar along with them.

The table should be big enough to pour out the sugar to around 15mm - 20mm thick, and have enough space outside the pouring area to move the sections of hot candy to cool further before moving them off the table.

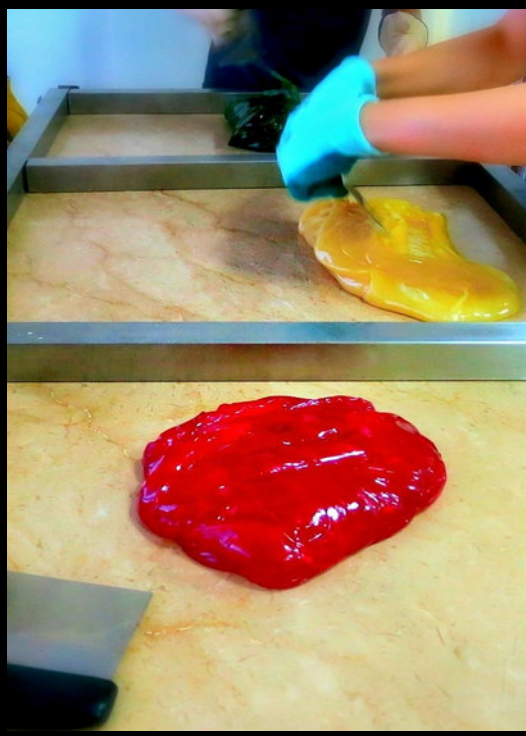
A standard cooling table would be 1500mm X 800mm. These dimensions can vary depending on your production requirements. The granite table pictured was 1800mm x 900mm with 25mm thick granite mounted on a 50mm box tube steel frame.

Water-cooled tables are used by many candy makers and are available for purchase from several candy equipment suppliers in the UK, India and China. Water cooled tables require a water source to be connected to one side of the table, and an outlet at the other side. The water moving through the table will absorb the heat from the sugar and provide quick and efficient cooling for large batches of candy. There are some problems with these tables, such as increasing pressure inside the table from expanding rapidly heated water has been known to break the welds inside the table, resulting in a buckled and uneven surface to work on. Also, due to initial purchase cost and water requirements, some candy makers have chosen stone - such as marble or granite - as an alternative to water cooled tables.

With similar thermal mass, both water and stone will absorb heat from the sugar.

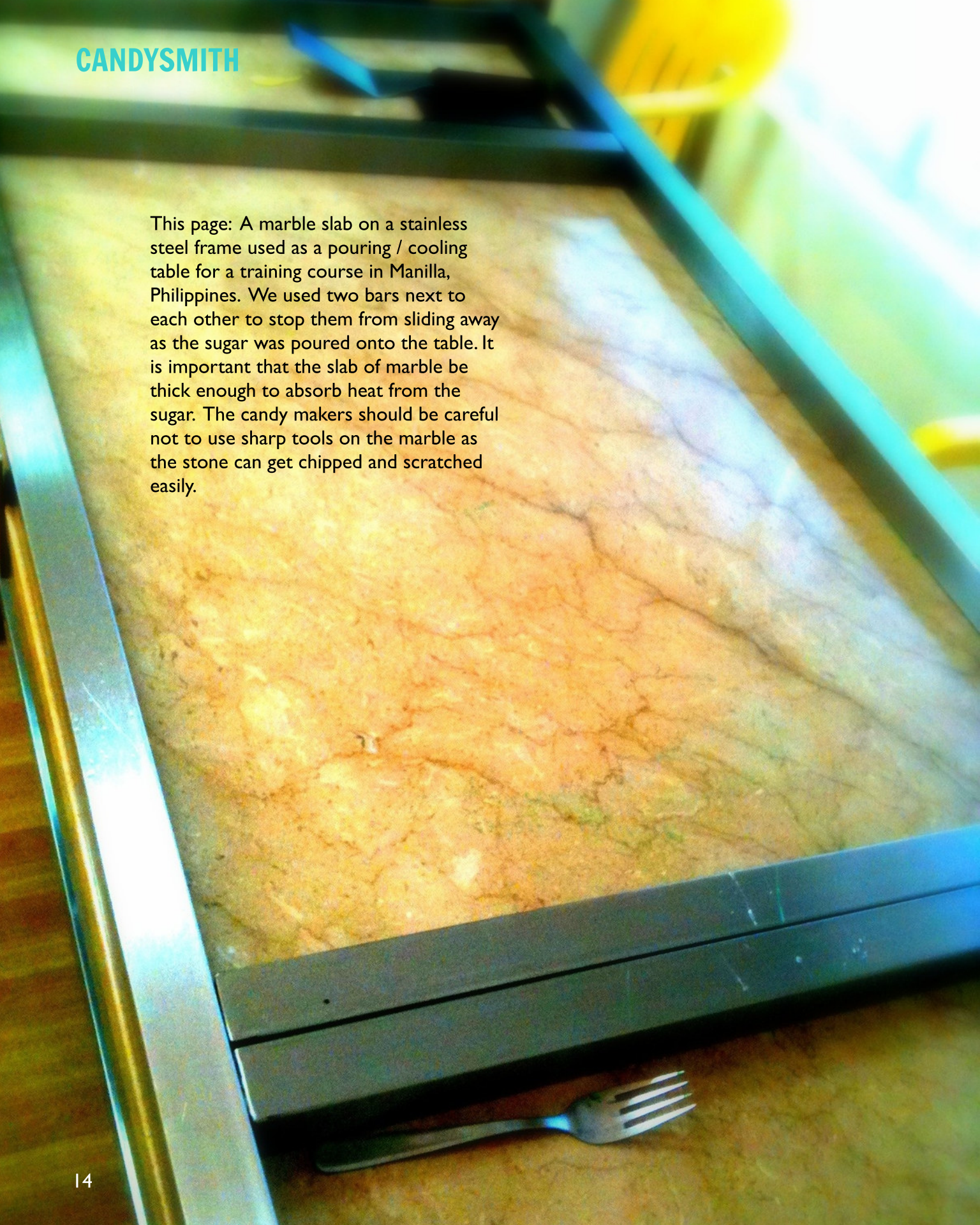
Left: The granite cooling table with bees wax and bars set in place ready to pour a 10kg batch onto.

Above: A small granite pastry bench with aluminium angle bars ready for a 3kg pour.



In the old candy making guides from around 1890, they write of using marble slabs to cool the sugar. This was a tradition I preferred to keep in my studio, and in the same 'keep it simple' philosophy, many of my students around the world have chosen to pour onto stone.
It is important that the slab be positioned on a strong skeleton frame that will not buckle when the marble or granite heats up. I have seen an expensive 20mm thick slab of granite be broken in half by being placed on a 2.5mm flat stainless steel bench / table top that heated up, expanded and then buckled, causing the granite to flex and break in half.
We use a baking release spray like canola oil spray to prevent the candy from sticking to the table. Some candy makers use a mix of pure natural beeswax and oil that is made into a paste then brushed or spread onto the cooling table surface. This was a technique we used for a few years until the change was made to release spray, due to potential allergic reactions to bee products from some customers.
Oil should not be substituted for baking release spray. The benefits of non-stick release spray cannot be overstated, especially when you have to clean off sugar that is stuck to a slab of marble.
The table should be cooled between pours if it is too hot from the last batch. This can be easily done with a wet cloth and a fan. The table must be completely dry and re-waxed / sprayed before the next pour.

Note: The 'cooling table', although very useful, is not essential!
Refer to 'the frying pan theory' (page 82) to understand how to replace this table with a smaller, lighter and more cost effective option.

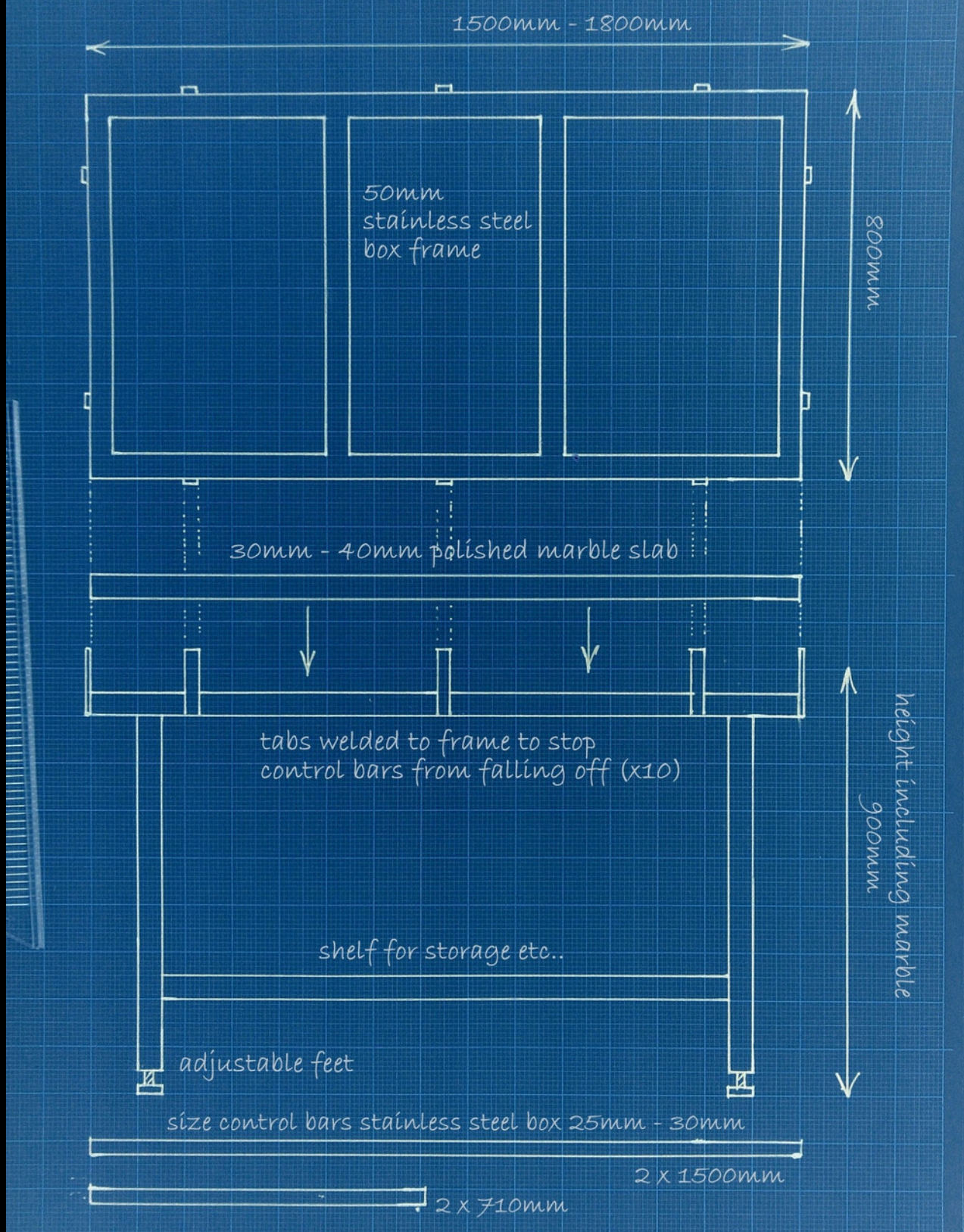


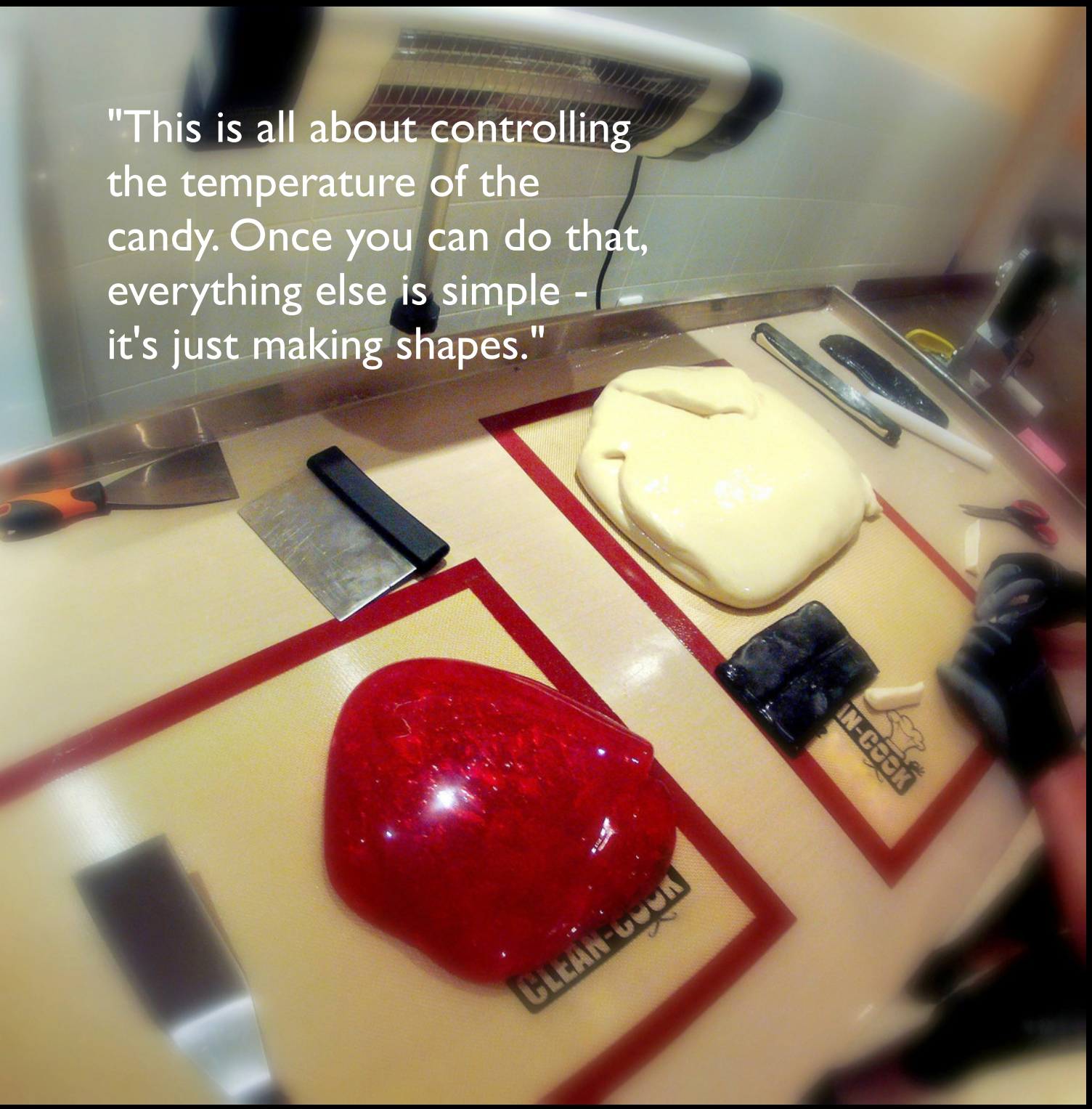
This page: A marble slab on a stainless steel frame used as a pouring / cooling table for a training course in Manilla, Philippines. We used two bars next to each other to stop them from sliding away as the sugar was poured onto the table. It is important that the slab of marble be thick enough to absorb heat from the sugar. The candy makers should be careful not to use sharp tools on the marble as the stone can get chipped and scratched easily.

The marble table set up and ready to pour onto in a training class in Kuala Lumpur, Malaysia. Here you can see the colours in squeezy bottles, the acid in a shaker, forks for mixing colours, flat lifters for folding over hot candy, and frying pans for sizing the small sections of colour.

The three tables set up and ready for pouring. The table closest to the front of the picture shows the size-control pans, colours, acid, and various tools, all ready and in place. The middle table is the hot / heated table and the end table is the rolling table. This set up - away from the wall - allowed us to have people working on both sides of the tables for a training course in Kuala Lumpur , Malaysia.
The tables do not need to be in this order, however the hot table should be alongside the rolling table, on either the left or right side, so the candy can be stretched from the hot table directly to the rolling table.

COOLING TABLE




"This is all about controlling
the temperature of the
candy. Once you can do that,
everything else is simple -
it's just making shapes."

the HOT / WARMING table

This is the table we use to keep the sugar mass warm and soft so that we can make whatever we need without the sugar cooling and becoming too hard to work with. The steel surface of the table is heated from underneath to around 65 Celsius (140-150 F), and this can be done in many ways.

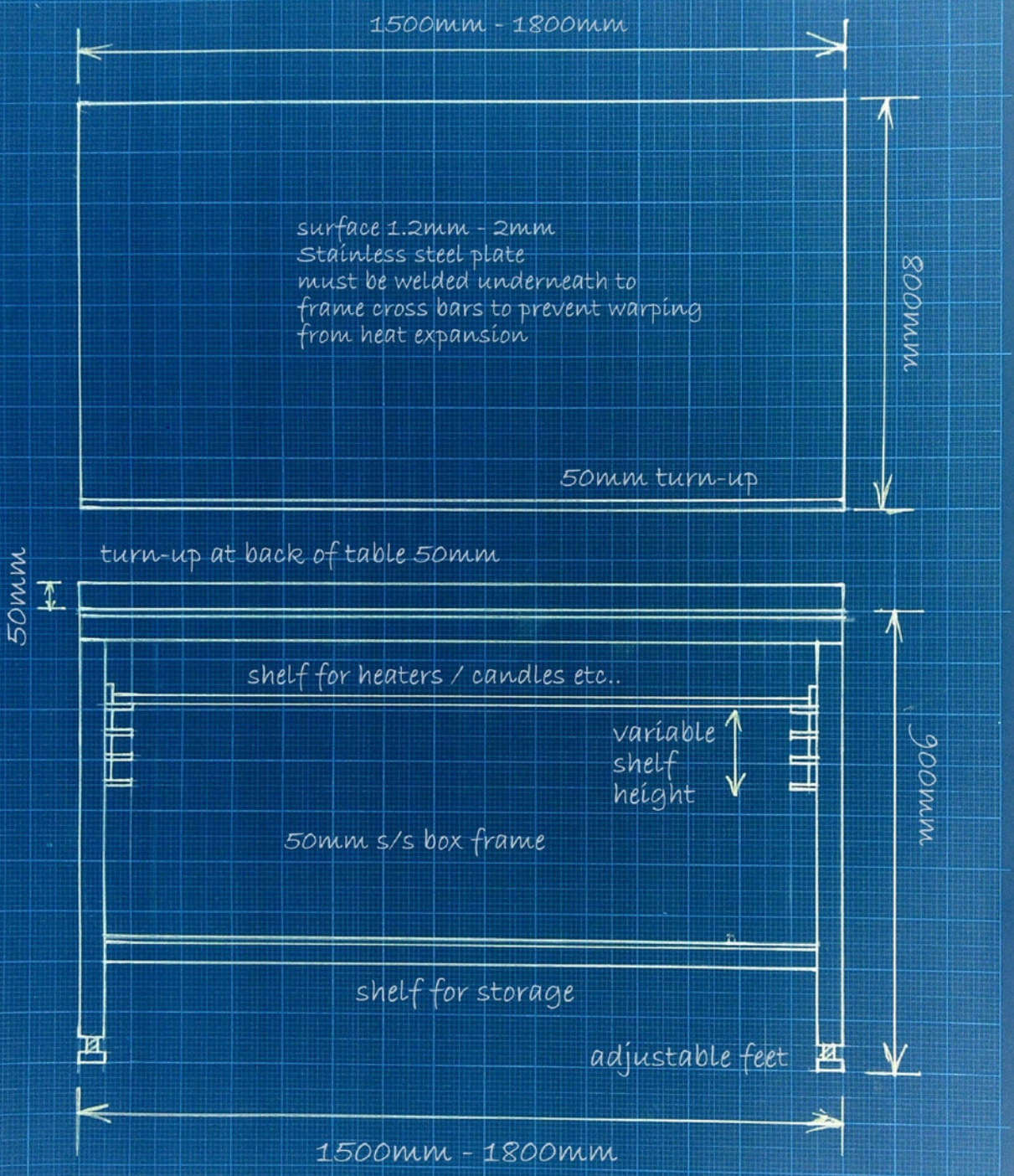
Over the last 10 years, we have designed and used many different warming tables, depending on the availability of materials, and budget of our clients. These included a simple set-up with tea-light candles as a heating source (one of the best table designs ever), another table was warmed with small Chinese oil burners, a table using BBQ gas burners (not recommended!), a very easy and portable set-up with electric hot-plates under a steel table, a very successful system using a second hand commercial flat griddle and halogen cookers, as well as various custom engineer-made tables with long coils of resistive elements that are thermostat controlled, all of which were successful in keeping the sugar warm and soft, and provided a large stable surface to work on. Some were not so successful, such as the giant 400kg space-ship-looking hot table in a new shop on a Greek island with pipes and tubes everywhere using a hot-water service to pump hot water through the table, which was designed by some people who just wanted to complicate things.
So, keep it simple... always the best way.

An ex-commercial griddle from a restaurant equipment auction can be successfully converted into a hot table. The thickness of the cast iron plate provides a great thermal mass for working on, with no buckling or bending.
A simple hot table was made at a training session in South America, from a basic stainless steel table and 3 electric cooking elements from a camping store. Total cost for the table was under US$300.

The ideal surface temperature is between 60 - 70 degrees Celsius. Sometimes we will use a cooler table and sometimes we will heat the table more, depending on our requirements.

A silicone or teflon mat is used on top of the steel or aluminum sheet, that must be food grade and non-stick, able to withstand 200 degree C temperatures and is cut resistant, so the candy will not touch the actual table top (available online for around US$25 for 60cm X 40cm).

We stretch the candy from the hot table onto the rolling table to roll the candy rods when we have finished making the candy.



HOT / WARMING TABLE

So, quite simply, the hot table should be designed and made with these considerations:

- It must be sturdy and must not move or shake when you work on it.
- It should be big enough to stand 2 people side by side to work, and deep enough to have enough room to work on and still be able to reach to the back. A small hot table might have a surface area of 1000mm X 600mm, (for 2kg - 6kg batches) while a table that would be used to make larger 10-20kg batches would be 1800mm X 850mm.
- It should be standard work bench height, you can make it suit your personal choice for comfort - 850mm-900mm high.
- The top surface should be minimum of 1.2mm steel, cast iron or aluminum sheet. The surface will be heated up to 70 degrees Celsius, so consider if stainless steel is used, it has a tendency to buckle if not secured / welded to the table frame very well.
- There should be no gases or toxic fumes produced by heating the table, if so, then adequate exhaust fans should be used.
- An edge or 'turn-up' around the top of the table (along the back alone or back and one side, but not the front or side next to the rolling table) can help to stop various pieces from falling off the table and also provide a straight edge to work against.

The candles can be positioned in any way that is favourable to the candy maker. We can have the front of the table warmer, or the back warmer than the front, or one side or the other side warmer or cooler, by placing more or fewer candles in that area.
The trays allow us to remove and replace the candles easily, and keeps the area cleaner in case of spilled wax.
Typically, a 1800mm x 800mm hot table will use between 36 - 50 candles.
This provides a great solution to power loss issues!

It can also provide a solution for mobile demonstrations when power is not available and a gas table is not suitable.

The ideal surface temperature is between 60 - 70 degrees Celsius. Sometimes we will use a cooler table and sometimes we will heat the table more, depending on our requirements.

the perfect HOT TABLE...?

Use a BAIN MARIE!!
The best table for small artisan work, suitable for batches from 1kg - 10kg. Steam heated, efficient, portable, low cost and reliable - the 'bain marie' is one of the most widely used items in catering and food service.

Designed to keep food warm all day long, the bain marie trays are replaced with a thick metal sheet that gets heated by the steam, giving us the perfect, stable hot table to work on.

A bain marie is easily available online or from catering auctions or suppliers.

They are designed to be portable for on-site catering, functions, weddings etc, so they work very well as a portable hot table for mobile demonstrations or training.

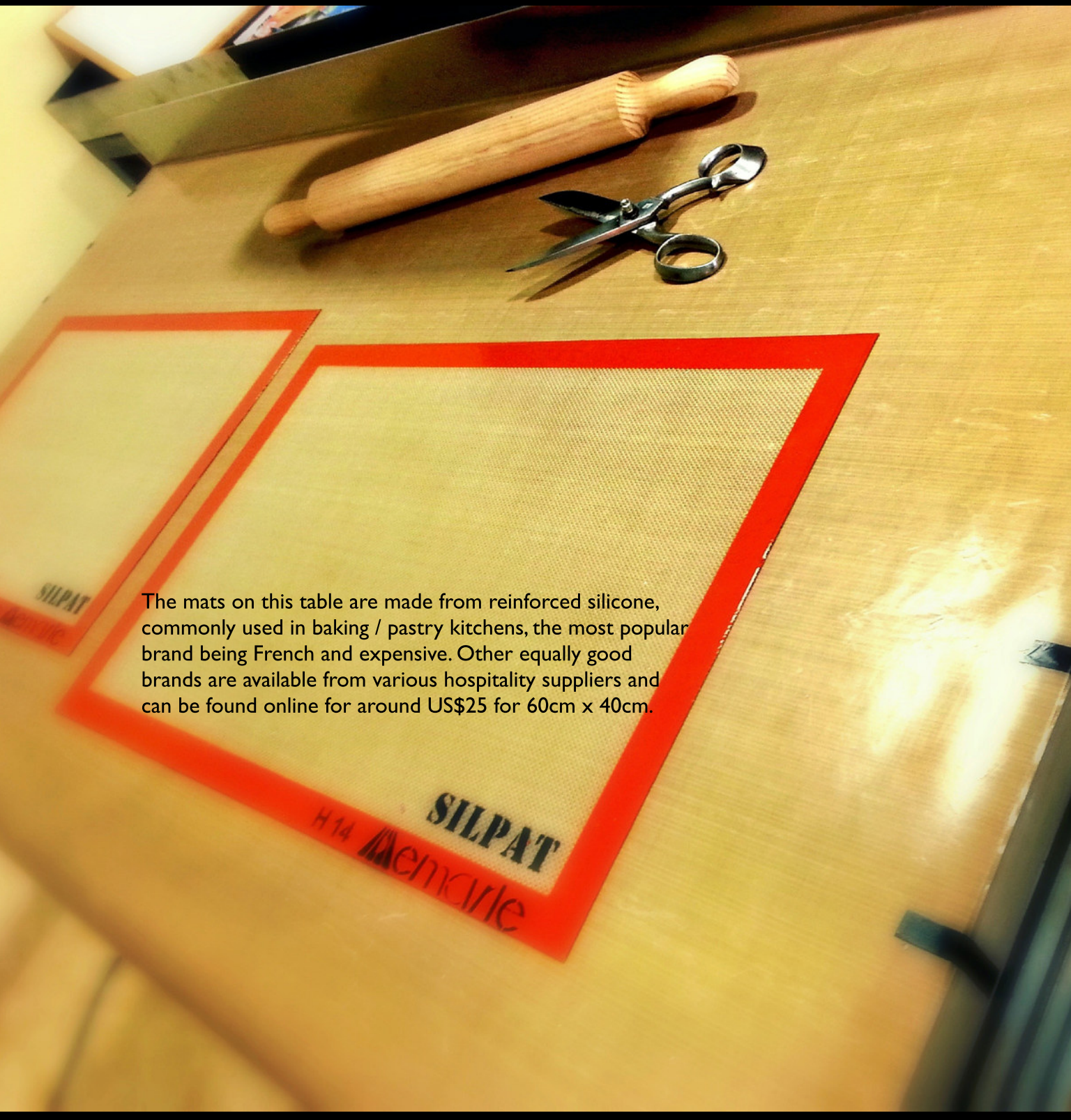
The bain marie will stay warm even if the power has gone out, whereas a regular 'hot' table with elements alone will not stay warm for long after power is lost.

It is most important that a water bath bain marie is never run without water covering the elements or the elements will surely overheat and break.

The table here is shown with 4mm aluminium sheet on top. The nitrile rubber waterproof tape helps cushion the table surface and keep the steam inside the table.

The aluminium is covered with food safe high temperature PTFE teflon sheet and silicone rubber cooking mats.

The bain marie hot table being used at a live demonstration.



The mats on this table are made from reinforced silicone, commonly used in baking / pastry kitchens, the most popular brand being French and expensive. Other equally good brands are available from various hospitality suppliers and can be found online for around US$25 for 60cm x 40cm.

CANDYSMITH

We use a non-stick, food grade, hygienic, temperature-resistant silicone mat on the hot / warming table to work on.
The mat is used directly on the steel / aluminum heated table surface.
There are two mats that we use in our studio.
The first mat is to cover the entire table surface, made from reinforced teflon. We sourced these from a supplier that manufactures conveyor belts for food production, such as pizzas, flat breads and burgers and more. The teflon mats are available in any length and a wide range of thickness, starting from fractions of a millimetre. We tape or clamp this mat to the table and it is only moved for cleaning.

The teflon will be a little slippery to use at first, and the silicone mats will be more grippy when working with smaller shapes and making letters. However when used in combination, the mats provide both surface textures that we need, depending on what stage of the candy making process we are at.

Some candy studios will cover the working surface of their hot table with a thick sheet of leather. This is usually oiled daily to prevent drying out and cracking. It provides a strong cut resistant surface to work on. However, if you use this method let your customers know - if you have vegan or vegetarian customers, would they want their candy made on leather?

the ROLLING / COOLING table

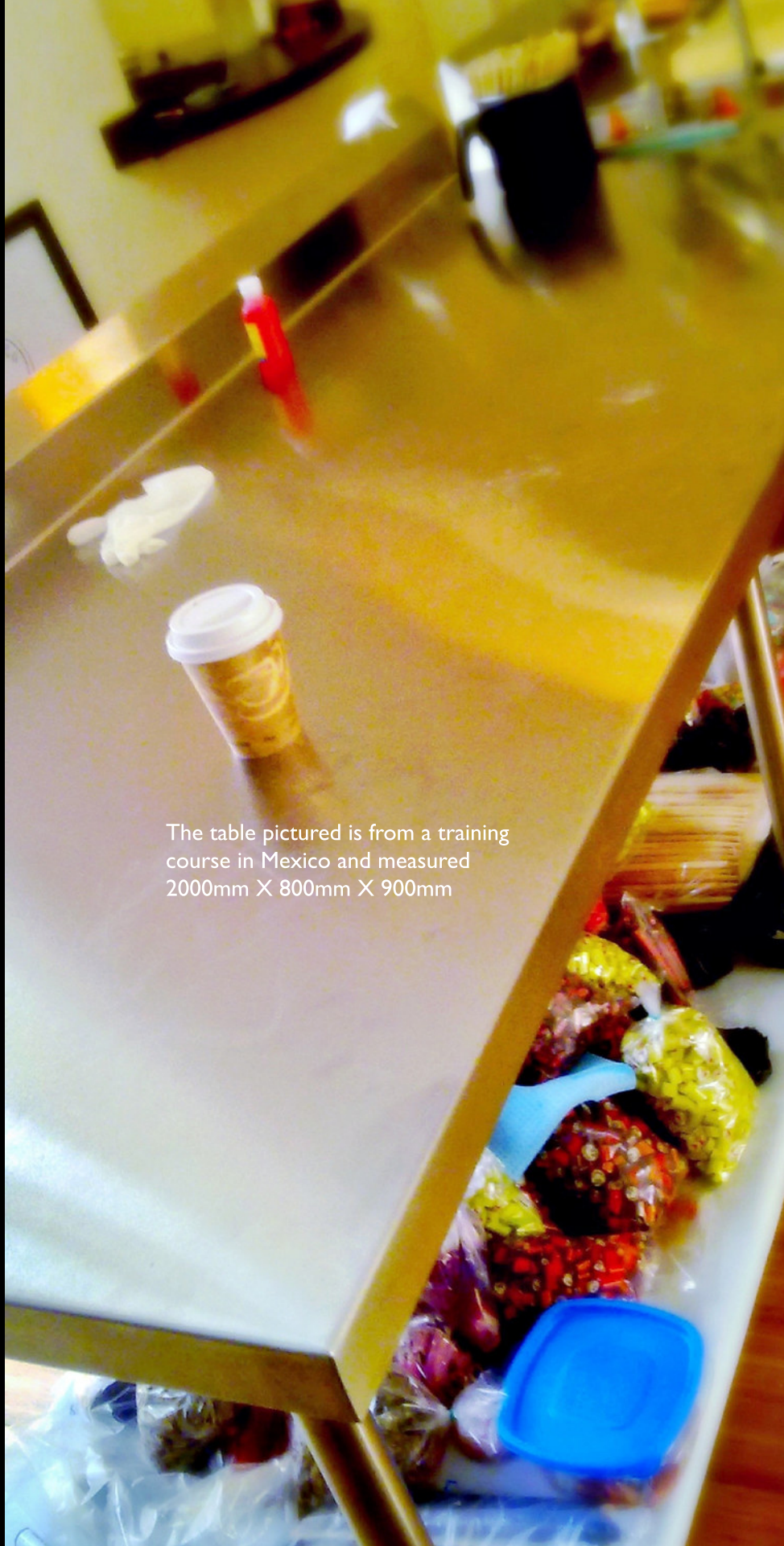
This is a long steel table kept at room temperature. It can be used as a secondary cooling step when moving candy from the pouring table or the size control pans to the warming table, and as an area to roll and cool the rods of candy when they are being stretched out into even lengths.

The table is not heated or cooled. It should be kept at room temperature. The table should not be sprayed or oiled, as this will make the surface slippery and rolling rods of candy will be very tricky.

A rolling table can be purchased new or used from a catering supplier or restaurant auction. There are many options available, such as under table shelving, leg design, front / rear or side turn-up, thickness of steel, length, width, height adjustment etc. Prices will vary with all these options.
Some things to consider when purchasing the table: the table should be at least 1500mm long, standard working height, with rear turn-up, and should be strong, with a shelf underneath for storage.

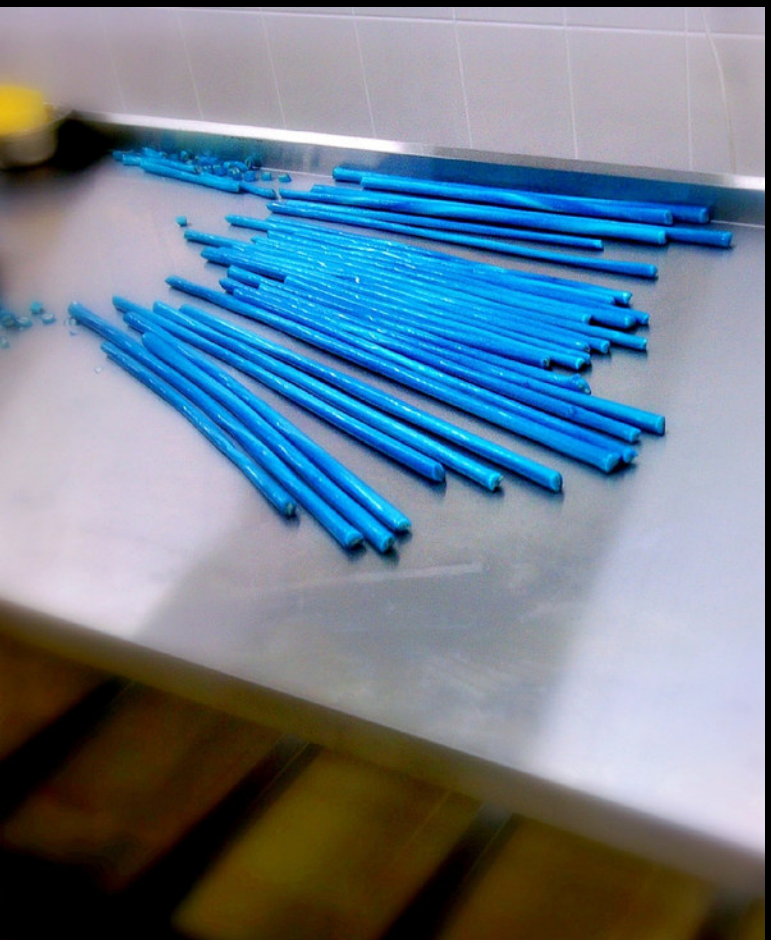
Note the turn up at back of the table to stop candy from falling off.

Also note the coffee on the table. Seems to be a key ingredient in candy making...or candy makers ;)

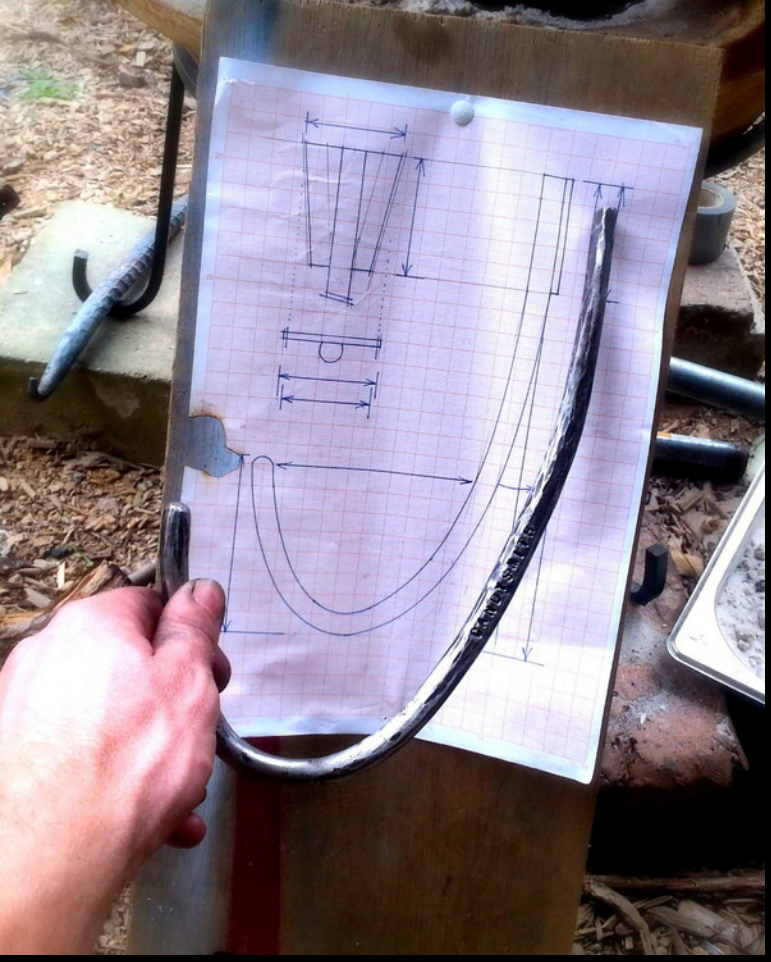


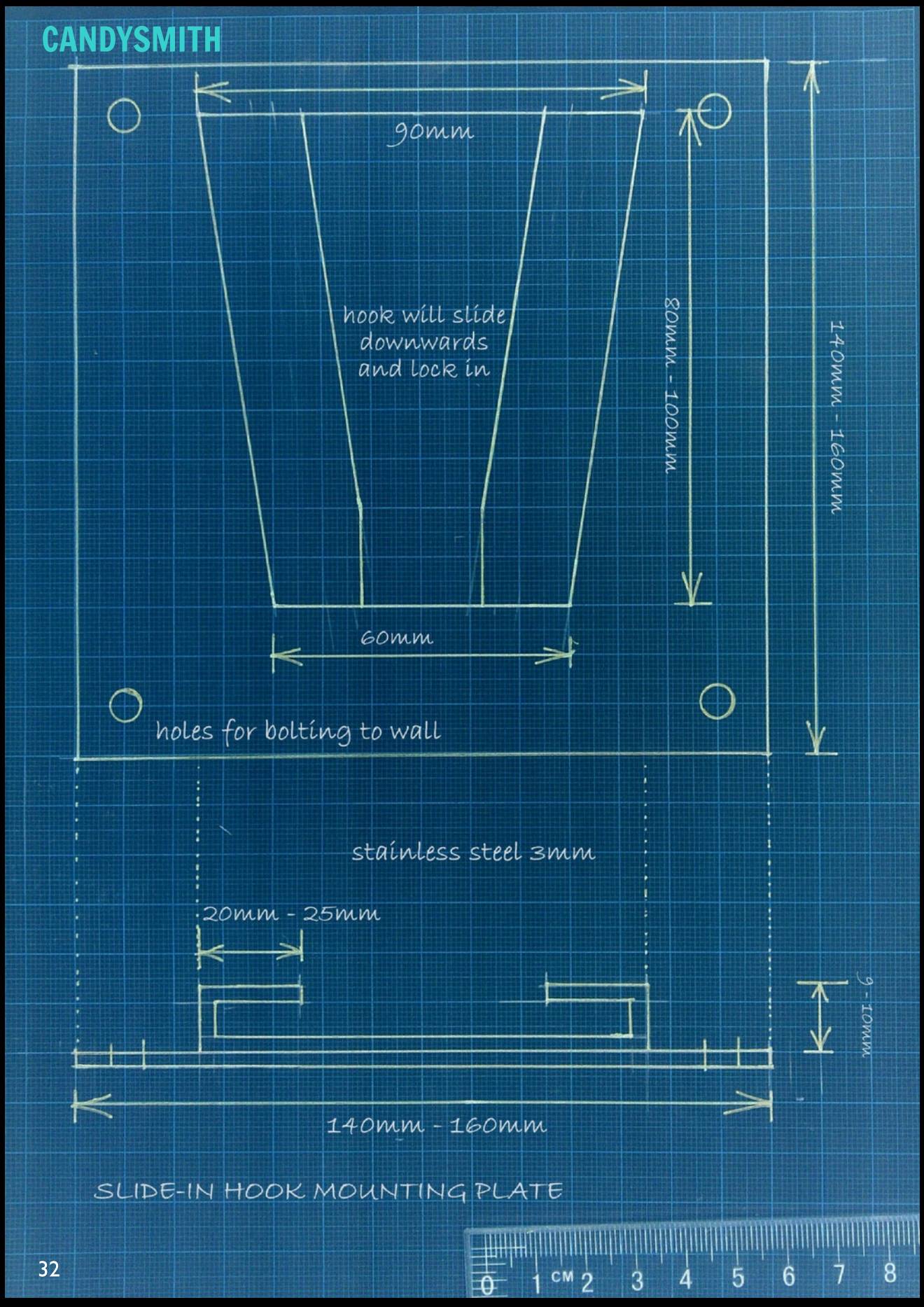
The table pictured is from a training course in Mexico and measured 2000mm X 800mm X 900mm

This table has a 50mm turn-up all around the edge, with a gap to allow cut candy to be removed from the table and to assist with cleaning.

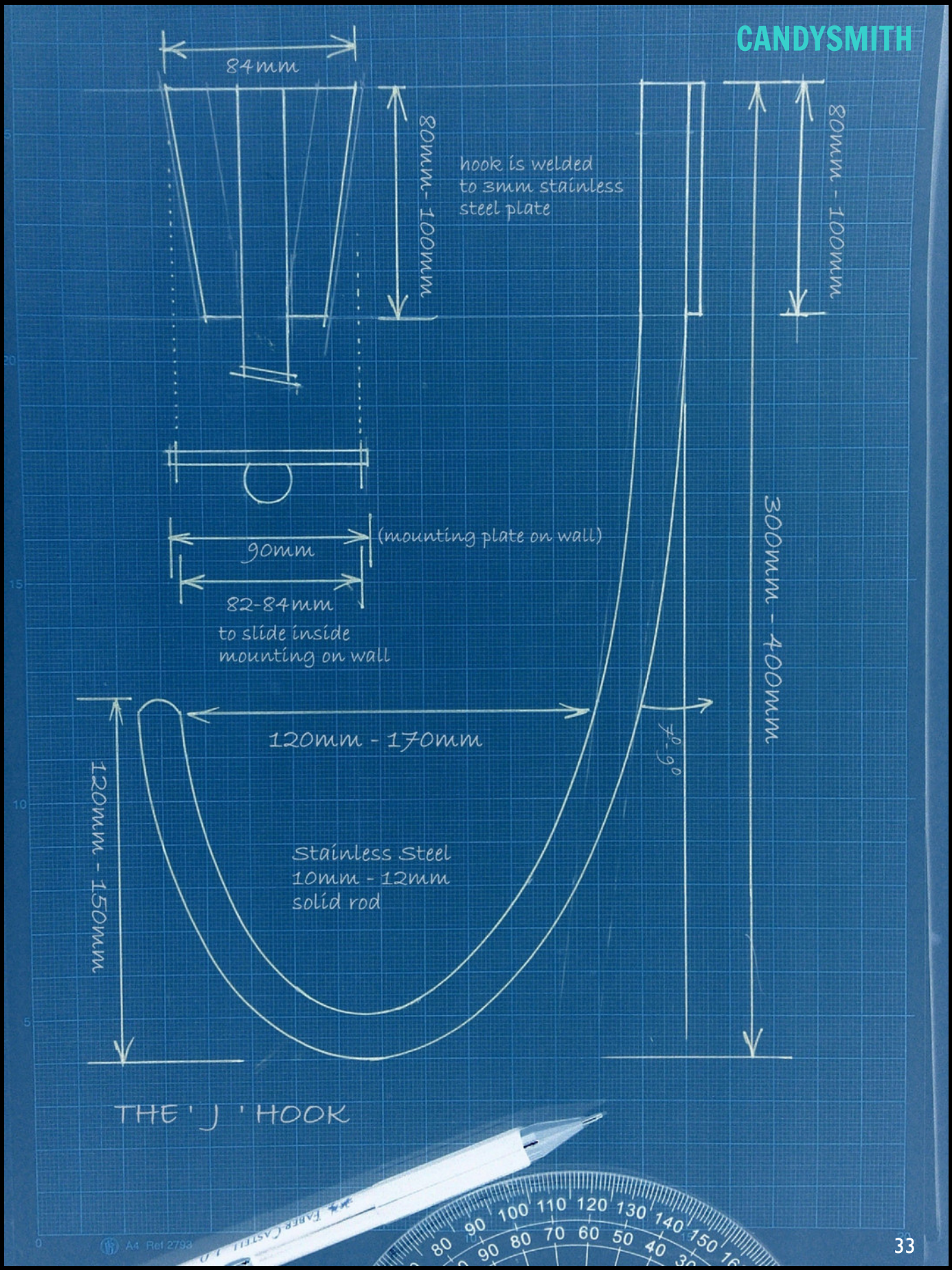


The hook is a most important part of the process, and is used on almost every batch we make. Hot sugar is pulled / stretched and folded over and over using the hook, which aerates the sugar and adds many tiny air bubbles to the mass, lightening the colour and increasing opacity, which can be very useful if we need two colours next to each other that would not be visible if both colours were transparent.
Pulling sugar adds lightness and crunch to the texture of the finished product (this is similar to what happens when beating an egg-white or whipping cream).
The hook should be made from stainless steel and mounted on the wall or a pole, and should be removable for cleaning.
The hook will slide into a mount that is bolted to a solid wall or pole. The hook should be roughly 300mm long and 10mm - 15mm stainless steel rod.
Two or three hooks can be made and kept for use while the other hooks are being cleaned. They are also useful for stretching multiple colours.
The hook can be made curved, in a 'hook' shape also known as a J hook, or as a straight hook. Both work exactly the same and it is a matter of personal preference as to which you choose.
I forged the hook pictured below from 12mm stainless steel with 5mm stainless steel wall mount.
This hook is designed to fold against the wall when not in use. This can be very helpful in a small space.





SLIDE-IN HOOK MOUNTING PLATE


84mm
80mm - 100mm
hook is welded
to 3mm stainless
steel plate
80mm - 100mm
300mm - 400mm
90mm
(mounting plate on wall)
82-84mm
to slide inside
mounting on wall
120mm - 170mm
7°-9°
120mm - 150mm
Stainless Steel
10mm - 12mm
solid rod
THE 'J' HOOK

in the kitchen...

1. Cloths for cleaning and lifting hot pots.

2. Various sized jugs for measuring water, sugar etc and for mixing colours.

3. Stainless steel bowls for glucose, mixing and general kitchen use.

4. Electric jug for boiling water to mix powder colours, and for making cups of tea...very important! ;)

5. Scales. Analogue scales for measuring glucose and sugar, and digital for measuring packed candy prior to sale.

6. Various jars for keeping colours, spices and other ingredients.

7. Sizing bars on cooling table.

8. Granite cooling table.

1. Mortar and pestle for grinding spices and sugars.

2. Polypropylene (PP) bags for packing / storage / retail.

3. Airtight storage containers.

4. Bamboo steamer, useful as a second / back-up strainer or sifter to separate cut candy pieces from small chips of candy.

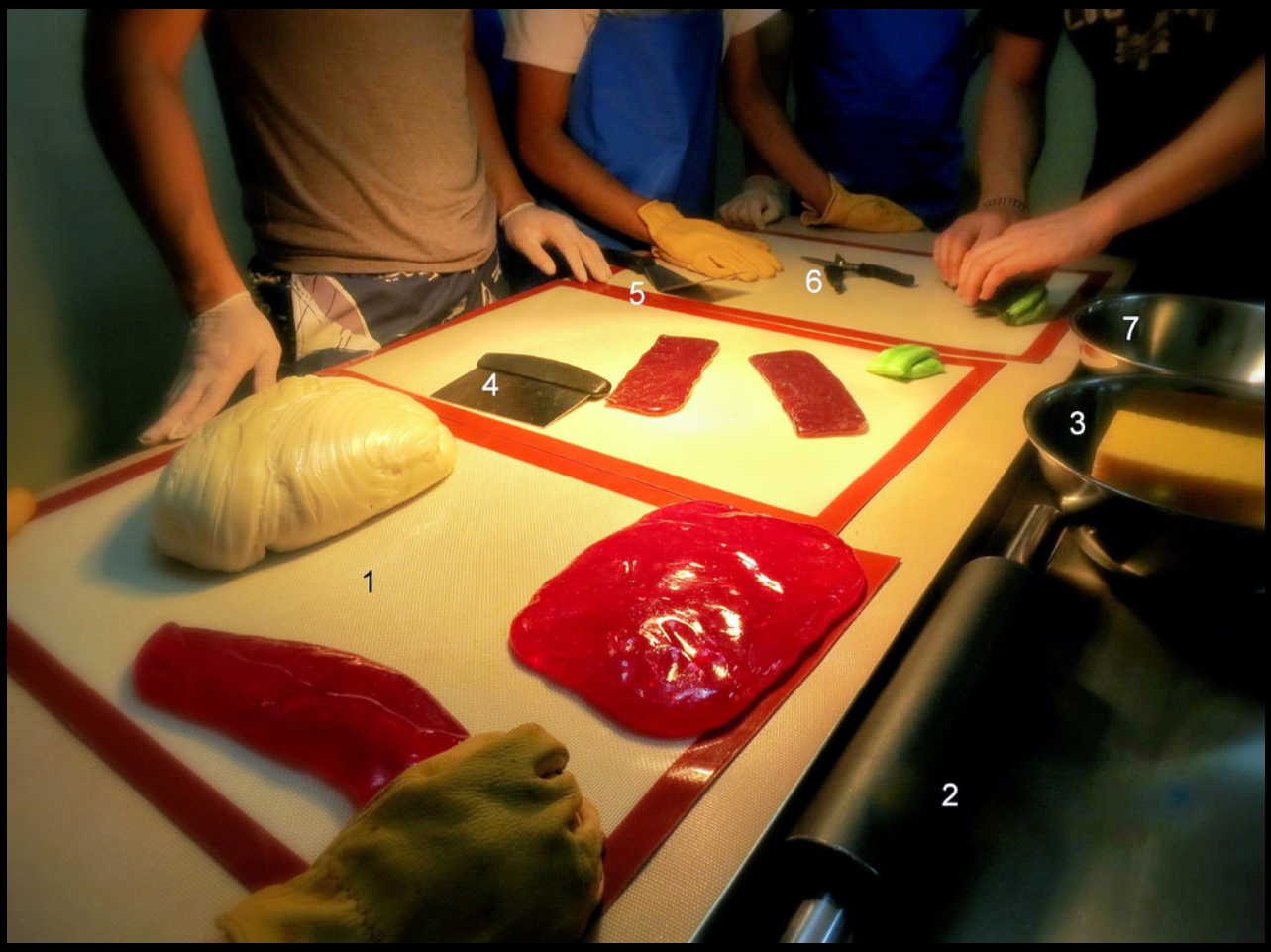
5. Electronic scales. Used for weighing small bags of candy for weddings and promotions.

6. Scoops for sugar.

7. Small desk top fan. Used for cooling rods of candy before cutting.

8. Hand-powered pillow candy machine.

9. Large Chinese wok for mixing cut candies together and coating in spices or powdered sugar.



1. Silicone mat. Typically used for baking. Useful for making small shapes and pieces, as it has better grip than teflon for rolling small pieces. Very useful for candy making - non stick, food grade, high temperature resistance, reinforced with glass fibre to give more strength.

2.Silicone rolling pin. Can be expensive, but excellent for shaping and smoothing casings.

3. Sponges for making candy sticky before joining together. Should be kept damp, not wet.

4. Flat scrapers, for shaping pieces, and lifting pieces of candy from the table surface without distorting the candy with fingers.

5. Scrapers. Useful for various shapes and lifting hot sugar from pouring / cooling table.

6. Spring loaded kitchen shears.

7. Stainless steel bowls. Keep a variety of these on hand. Useful for mixing spices, colours, storing tools for use, keeping sponges damp. Always needed in any kitchen.

1. Infrared heat lamp from medical supply store.
Useful for keeping sugar at working temperature.

2. Wooden rolling pin. Made to match the inside of a 10 - 12kg batch so that letters can be shaped over it before adding to the centre design or logo, so as not to deform the centre design. Also used for flattening and smoothing the wrap / casing.

3. Spring loaded shears for cutting letters and smaller pieces of candy.

4. Stainless steel cleaver. Used for shaping letters and designs.

5. Silicone mat. Food grade silicone, 3mm thick, rated to 300 degrees C, non-stick and hygienic.

the heat lamp

A heat lamp is used above the hot table to help to keep the candy soft while we work with it.

This lamp can be infrared or another type of heat lamp that will provide a constant even temperature.

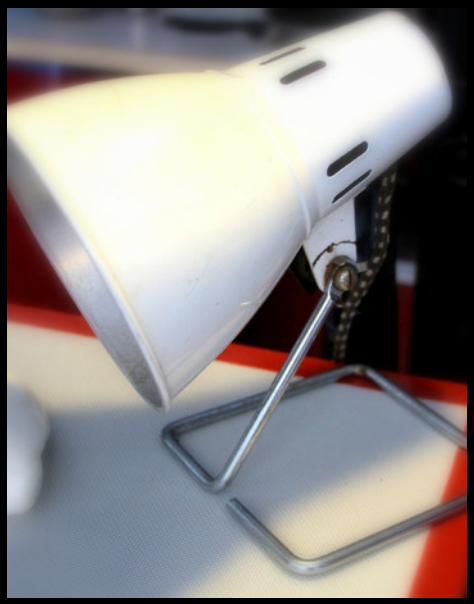
The heat lamp used in the original candy studio was from a medical supply company that produces infrared heat lamps for muscle treatments. It produces no light so there is no wasted energy, and it is quite efficient at helping keep the sugar at a workable temperature.

A radiator on an extendable stand used for heating living areas can be used as a heat lamp for candy making. Easy to find, with protection along the front and thermostat control.

A red IR heat lamp can be used, however it will make the table very red and can cause problems with colour identification.

Lamps for sugar work, such as the twin lamp set-up pictured right, are available at catering and bakery suppliers and specialist confectionery equipment suppliers.

In many cake decorating / pastry kitchens where the chefs are making sugar ribbons and flowers for wedding cakes and various decorations, a sugar warming set up is used that has two lamps above a small marble slab or steel tray. The working surface is not heated other than the heat from the lamps above. This is suitable for small decorative work but not suitable for keeping the larger mass of sugar we work with warm, although it was the inspiration for using a lamp above our table, which has proved invaluable in reheating parts of the candy that have gone a little cool and need to be softened.



CANDYSMITH
the heating gun

One of the ways to re-soften candy that has gone too hard is to use a paint-stripping gun or heat-gun. Available from hardware stores, they have two or three heat settings. These are one of the most useful tools to have when dealing with candy that is too hard to work with. It could be a small piece that you need to soften for a letter, or to re-heat and soften the casing so you make it big enough to wrap around the roll, or to smooth the join in the casing after wrapping the candy, or to soften the rope of candy so it can be stretched right to the end. This will become an invaluable addition to your candy making kit. It should be used with care as the hot air that the gun blows out is capable of burning your hands and quickly melting candy.

thermometers

Two or three thermometers should be kept in your kitchen.

The most common sugar / deep fry / candy thermometer (pictured right) has a flat stainless steel backing plate with temperature scales in degrees Fahrenheit and Celsius, and sugar stages indicated, such as soft crack, hard crack etc.

They should be tested weekly by placing in boiling water.
A thermometer in boiling water should read 100 degrees Celsius at sea level.
In Ecuador, we were making candy at 2800 meters above sea level, where water boils at 91 degrees Celsius , so adjustments were needed to achieve consistent 'hard crack' sugar.

Electric or battery powered thermometers can be very useful as they can be set to give an alarm at a desired temp, so if you are away from the pot, you will hear the alarm and not overcook / burn the batch.

Using an IR laser thermometer is not recommended for liquids in shiny pots as the IR will reflect off the shiny surface and can give inaccurate temperature readings.

gloves

We use gloves for protecting our hands from the heat of the sugar and for hygiene.
Different gloves are used at different stages of the process. For example, when mixing colours into the sugar we use disposable latex or vinyl gloves - they are thin, which makes it easy to pick up small containers of colour and handle mixing forks, and if you happen to get any hot sugar onto your fingers, the gloves can be easily and quickly removed to prevent burns. It is wise not to use leather gloves for mixing colours into the liquid hot sugar, as any sugar that gets onto the leather gloves can be very tricky to remove. Later on, when you are stretching, pulling or making shapes using the leather gloves, any small traces of sugar on the leather gloves will cause more sugar to stick and this can be very frustrating.
We use leather or industrial nitrile rubber gloves for pulling sugar on the hook. An inner cotton glove is also sometimes used to stop the heat from the sugar from burning your hands. Use the white or undyed leather gloves. If they are a little sticky to begin, they can be dusted with corn starch, waxed or oiled to help with handling candy. Leather gloves are also useful for stretching the finished candy. Many candy shops around the world use gardening / mechanic style gloves such as Ansell Hyflex - these gloves are great for making letters and shapes as they fit tighter, and give a good feel of the candy. However, they can be just a bit thin for stretching or pulling sugar until your hands get used to the heat. It should be noted that these style of gloves are not necessarily food grade, some brands will leave rubber and other contaminates in the candy. Health requirements should be checked before using these gloves for products that will be sold in your shop.

The best choice for gloves is to use a cotton inner glove, available for around $1, and cover the glove with a disposable nitrile rubber glove. This way the gloves don't get sweaty, the cotton glove can be washed, the disposable glove can be replaced, and together they provide great feel and control, as well as excellent heat protection. This combination of gloves is food grade and suitable for use in any part of the candy making process. The black nitrile gloves are also used extensively in the tattoo industry.

You may see videos or live demonstration of people working with sugar with no gloves on... it takes years of work to build up the ability to handle the heat with bare hands. If you wish to work with bare hands, pull sugar with no gloves or put glucose in the pot bare handed, please take a note from the Japanese Sushi chefs and shave or wax your arms and hands to avoid leaving any hairs in your candy.

don't forget...

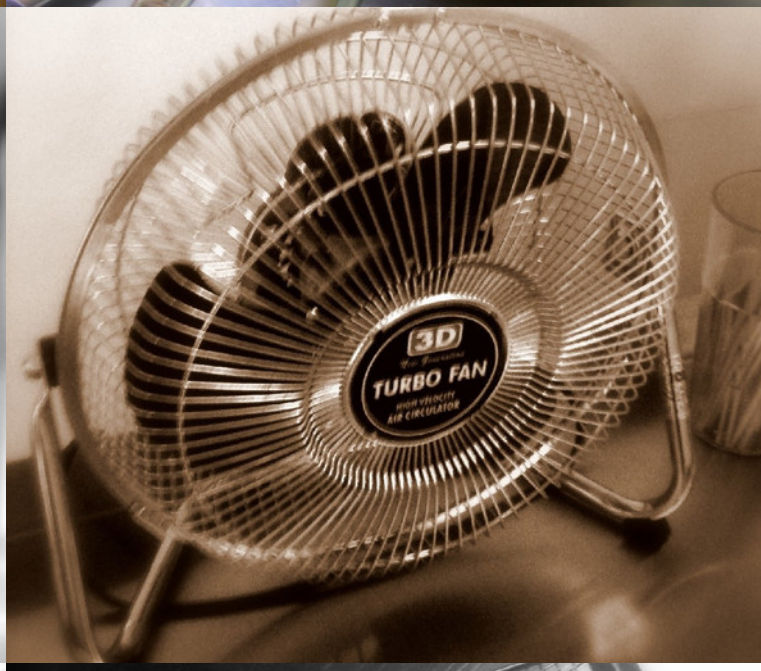
- A variety of stainless steel scrapers for lifting and shaping candy.
- Forks for mixing colours and acid into sugar.
- Spring loaded kitchen shears.
- Stainless steel bowls.
- Variety of spoons and tongs.

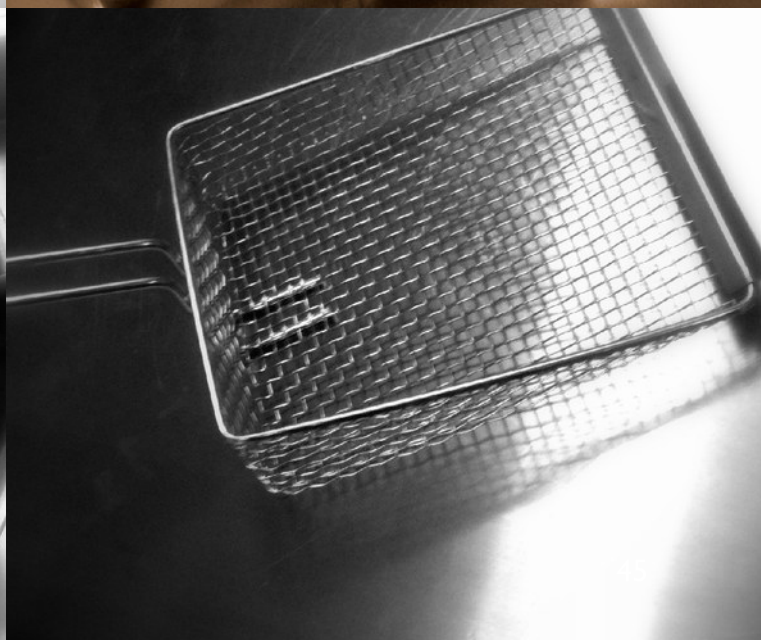
-Sponges are used to stick pieces of candy together. They should be damp - not wet - and should not drip water if squeezed. They should be clean and not fall to pieces when used, as you will use it to stick every piece of candy together - fruits, letters, casing...everything.
Try to find good quality thick kitchen sponge and cut to the size you like to use.

- Rolling pins for smoothing casing, and shaping letters.
- Small pots and containers are used frequently for various spices, sugars, corn starch and other ingredients, so a good supply of a variety of sizes should be kept on hand.

- Frying baskets and wire strainers can be very helpful to lift cut candy pieces off the table for packing. This will help to remove any tiny chips and dust before packing or storage.

CANDYSMITH


3D
TURBO FAN



sugar

Most of the hard candy we make comes from a very simple recipe - sugar, glucose and water. The sugar we use most of the time is regular white refined sugar - the same as you will have in your kitchen at home.
Sugar, also known as sucrose, is a molecule comprised of 12 atoms of carbon, 22 atoms of hydrogen and 11 atoms of oxygen.

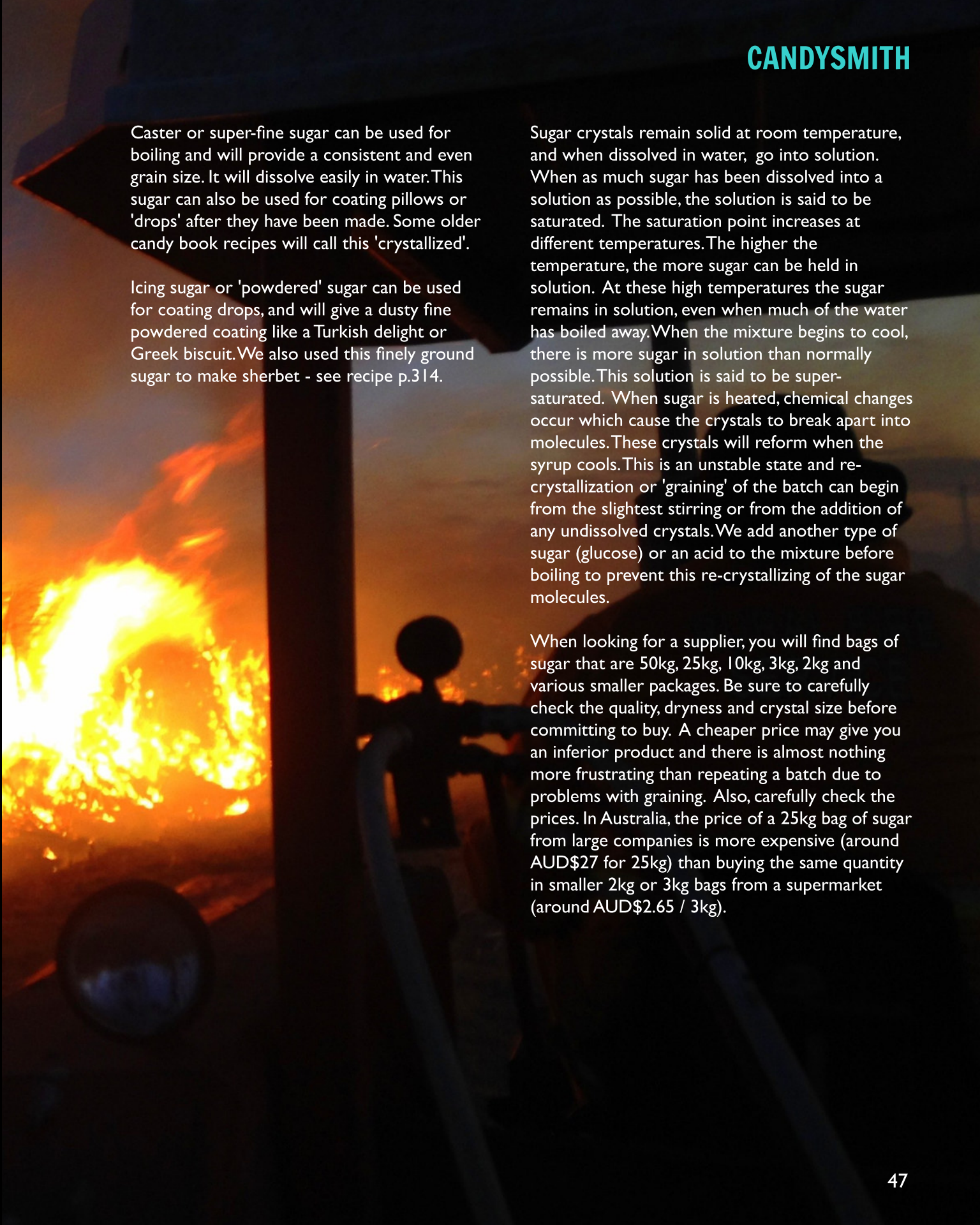
$C_{12} H_{22} O_{11}$

Sucrose is actually the combination of two simple sugar molecules: fructose and glucose. It is found naturally in most plants, but is especially high in sugarcane and sugar-beets - hence their names. Sugarcane accounts for around 60% and sugar-beet for around 40% of the world's sugar production.

In all the places we have taught candy making around the world, the sugar has come from sugarcane.

Sugar can be purchased in many grades, such as caster, manufacturers, graded etc. Each different country will have different names for the same product. For sugar boiling in Australia, we use manufacturers or graded sugar. 'Manufacturers' sugar is more cost effective and good for large manufacturers looking for cheaper product. Graded is just that - 'graded' - so the crystals should all be the same size. Although in some countries, such as Siberia, the 'graded' sugar caused us many problems. Manufacturers and also graded sugars available from both suppliers and the supermarket were damp and had many impurities in it, such as bits of sugar cane from the refining process, with a very uneven sugar crystal or grain size.
This led to constant problems with 'graining' and crystals forming in the boiled sugar, which produced an inferior product and gave the candy makers a constant headache as they searched for new suppliers and remade batches after yet another one was spoiled due to graining.

View from the back of the water tractor during an early morning sugarcane burn in the Burdekin region in Northern Queensland, Australia.



Caster or super-fine sugar can be used for boiling and will provide a consistent and even grain size. It will dissolve easily in water. This sugar can also be used for coating pillows or 'drops' after they have been made. Some older candy book recipes will call this 'crystallized'.

Icing sugar or 'powdered' sugar can be used for coating drops, and will give a dusty fine powdered coating like a Turkish delight or Greek biscuit. We also used this finely ground sugar to make sherbet - see recipe p.314.

Sugar crystals remain solid at room temperature, and when dissolved in water, go into solution. When as much sugar has been dissolved into a solution as possible, the solution is said to be saturated. The saturation point increases at different temperatures. The higher the temperature, the more sugar can be held in solution. At these high temperatures the sugar remains in solution, even when much of the water has boiled away. When the mixture begins to cool, there is more sugar in solution than normally possible. This solution is said to be super-saturated. When sugar is heated, chemical changes occur which cause the crystals to break apart into molecules. These crystals will reform when the syrup cools. This is an unstable state and re-crystallization or 'graining' of the batch can begin from the slightest stirring or from the addition of any undissolved crystals. We add another type of sugar (glucose) or an acid to the mixture before boiling to prevent this re-crystallizing of the sugar molecules.

When looking for a supplier, you will find bags of sugar that are 50kg, 25kg, 10kg, 3kg, 2kg and various smaller packages. Be sure to carefully check the quality, dryness and crystal size before committing to buy. A cheaper price may give you an inferior product and there is almost nothing more frustrating than repeating a batch due to problems with graining. Also, carefully check the prices. In Australia, the price of a 25kg bag of sugar from large companies is more expensive (around AUD$27 for 25kg) than buying the same quantity in smaller 2kg or 3kg bags from a supermarket (around AUD$2.65 / 3kg).

caster sugar / super fine sugar

Caster sugar is a granulated sugar with a very fine texture which in turn makes this sugar the predominant choice for candy makers as it dissolves quickly and has a consistent and even crystal size. Caster sugar is also used for coating or 'crystallizing' drops and pillows to give them a sugary texture and help prevent sticking in jars or tins. In some countries such as the US, this sugar is the standard, with a fine, even, tiny crystal size that makes it perfect for our work. Try to look for a supplier that can provide sugar that is dry with perfectly even crystal size and free of any impurities.

icing sugar

This is a very fine textured sugar. It is the finest of the white refined sugars and is commonly used in making icing for cakes and pastries. It is found dusted on Turkish Delights and Greek biscuits. We use icing sugar for dusting / coating our pillows and 'drops' to give them a traditional 'dusted' finish. It can be useful to help prevent the drops sticking together when packaged in jars or tins. Icing mixture is icing sugar with cornstarch added to prevent clumping in the packaging. We also use this powdered sugar to make sherbet (mixed with citric or tartaric acid and bi-carb soda).

Some natural brown sugars have particular names and characteristics, and are sold as Turbinado, Muscovado, or Demerara sugar. Turbinado and Demerara sugars are made by crystallizing raw sugar cane juice, then spinning it in a centrifuge to remove water and some impurities.

raw sugar

Raw sugar is the product of the first stage of the cane sugar refining process, and as a result it has some very distinctive characteristics, such as a light brown colour and a delicious honey-like taste. The brown colour of raw sugar is due to presence of molasses that has not yet been fully extracted.

We can use raw sugar for making pillows that will be filled with chocolate, or for making 'warmer' flavoured candies, such as Tia Maria or Kahlua flavour.

It can be a little difficult to get a clean white colour when working with raw or darker sugars, so if colour matching is important, for a company logo order for example, it is best to stick to white refined sugar.

raw caster sugar

Raw caster sugar is made from raw sugar, whereas regular caster sugar is made from white sugar. Both caster sugars have the same size sugar crystals so they dissolve and cream in exactly the same way, which works perfectly for candy making. However, raw caster sugar has a soft-golden colour and subtle honey-like aroma, characteristics of the raw sugar from which it is derived. Raw caster sugar is great for coating pillows that are made from raw sugar, to give a crystally finish to the outside of the candy. Of course we can also use this sugar for our boiling, as it will dissolve easily and quickly when added to the water in the pot.

One way to prevent crystallization or graining in sugar boiling is to use a 'lowering' agent, usually glucose (corn syrup or wheat based glucose). Glucose is a food syrup made from the hydrolysation of starch. In Australia, we use wheat derived glucose. Maize (corn) is commonly used in the US as the main source of production, in which case it is referred to as 'corn syrup'. Glucose can also be derived from other starch crops such as potatoes and rice.

We generally use around 25% - 40% of the weight of sucrose in glucose. (1000gm sugar + 400gm glucose) and some hard candy will have up to 50% glucose. Too much glucose can cause 'cold flow' in the product, meaning that even after the candy feels hard, and has been cut and packaged, it will slowly sink and eventually become just one piece all stuck together in the bottom of the jar. Not great for your customers. Too little glucose can leave the sugar mixture in an unstable state and risk the entire batch graining before we have finished our work. Another way of preventing graining is by adding particular acids such as cream of tartar, citric acid (lemon juice), vinegar, or tartaric acid to the batch. By adding these it will create a chemical reaction which causes the sucrose to break down into its two simple components: fructose and glucose.

Cream of tartar was most commonly used in sweet shops around 100 years ago, and was added to a little water before adding to the boiling sugar at a rate of around 2gms to every approx 1kg sugar or 1/2 ounce to every 14 lbs sugar.

We can buy glucose in a large 250kg - 300kg drum. The drum is laid on the ground and opened, the glucose is slowly drained into a bowl or bucket as we need it. As the drum empties it can be turned / rolled to keep the glucose coming out. Eventually it will be light enough to stand up or tip up to empty completely. An alternative is to purchase the glucose in 25kg - 27kg buckets, or 10kg buckets, which are easier to handle, but will add to your production costs. Typically we account for AUD$1.25 - $2.00 per kg of glucose when costing our batches.
The bowl that the glucose is drained into can be placed directly into the pot before boiling. Generally we would start boiling the pot and as the sugar begins to boil, the glucose will soften and melt out of the bowl, leaving it almost clean. The bowl is then carefully removed from the boiling pot. This will help reduce wastage and over one or two years this will add up to a large saving of money.

flavours

The flavours we use come in liquid form, and are extremely concentrated.
They come as natural, N.I. – nature identical, and artificial / synthetic.
We also use natural oils, such as lemon, orange, lime, aniseed and peppermint. Oils are also very concentrated and only require 2-5ml per kg of sugar to impart strong flavours.
Flavours should be clear, with little or no colour, and have no acid, fruit juice, water or colours added to them.
They should be of the highest quality and be kept in air-tight glass bottles or jars away from heat and sunlight.

CANDYSMITH

We use 7 - 10ml of natural or NI flavour per kg of sugar, and 2 - 5ml of oil per kg of sugar.
Flavours can be used straight or combined to create 'cocktail' combinations. The best way to think about what will work is to imagine a juice, smoothy or cocktail with that flavour combination. For example, The 'Cosmopolitan rock' we made was based on the cocktail of that name...Orange oil, cranberry flavour and lime flavour. That was a popular choice for weddings.
Flavours are mixed into the syrup thoroughly after the candy has reached hard crack - 300F - 310 F.
It is important to remember that the flavours can be very flammable so we only mix the flavours into the candy when all flames have been turned off.
Once the flavours are mixed and most of the steam has gone, the syrup is poured onto the oiled (sprayed) marble cooling table or into the size control pans (frying pans) for cooling and colouring.
It is a good idea to be in regular contact with your suppliers and always be testing new flavour combinations. Some companies will offer samples of 20ml to 50ml to try in a test batch. This can give you a good idea of what to order and what combinations work together.
Try to order flavours in small volumes such as 1000ml to begin with...using fresh flavours is important in maintaining a high level of quality in your products. Some suppliers will only supply very large quantities, so check on their 'MOQ' - minimum order quantities.

COCONUT

colours

Colours should be food dye colours (water soluble) and be purchased in powder form so that we can mix them with water to make them as strong as we need and to match whatever colour is required. We mix the colours to be very concentrated, so that we add only a small amount of liquid back into the candy.
Colours that are 'lake' colours should not be used as they are oil soluble and are not suitable for our process.

There are some liquid colours available at bakery suppliers that have been used successfully, and the range of colour choice is impressive. However, these colours can have an added ingredient known as 'glycerine' in them to keep them looking good, extend shelf life, and to keep them in a liquid state. This can be a problem for hard candy, as the glycerine can also prevent our candy from going hard. Pre-mixed liquid colours are usually made for use in cakes and icings, so they can also contain acids, sugars and other ingredients that we don't want to add back into our candy.

The best colours will be available from confectionery and bakery supplies and are simply food dye powders, highly concentrated.

Colours may have an 'E-number'. E numbers, short for Europe numbers, are codes for substances used as food additives, including those found naturally in many foods. These numbers may be used on ingredients labels depending on your local regulations.

It is possible to mix the colours and create whatever new colour you require.
A basic range of colours should be purchased and kept on hand in your studio including yellow, orange, red, pink, purple, blue, green, brown, black, and white.

White colour powder is known as titanium dioxide (e-171). It is used in almost every batch we make to change colours (red to pink etc), and as the most common fill colour (the colour around the letters).

Picture left: coloured jars of candy we made during a training course in Riyahd, Saudi Arabia.

After mixing colours they can be stored in plastic squeezy bottles. These are cheap to buy and also provide us with an easy to use, controllable way of adding colour to the sugar.

If any colours have settled or come out of solution, usually a quick shake of the bottle is enough to re-mix the colour again.

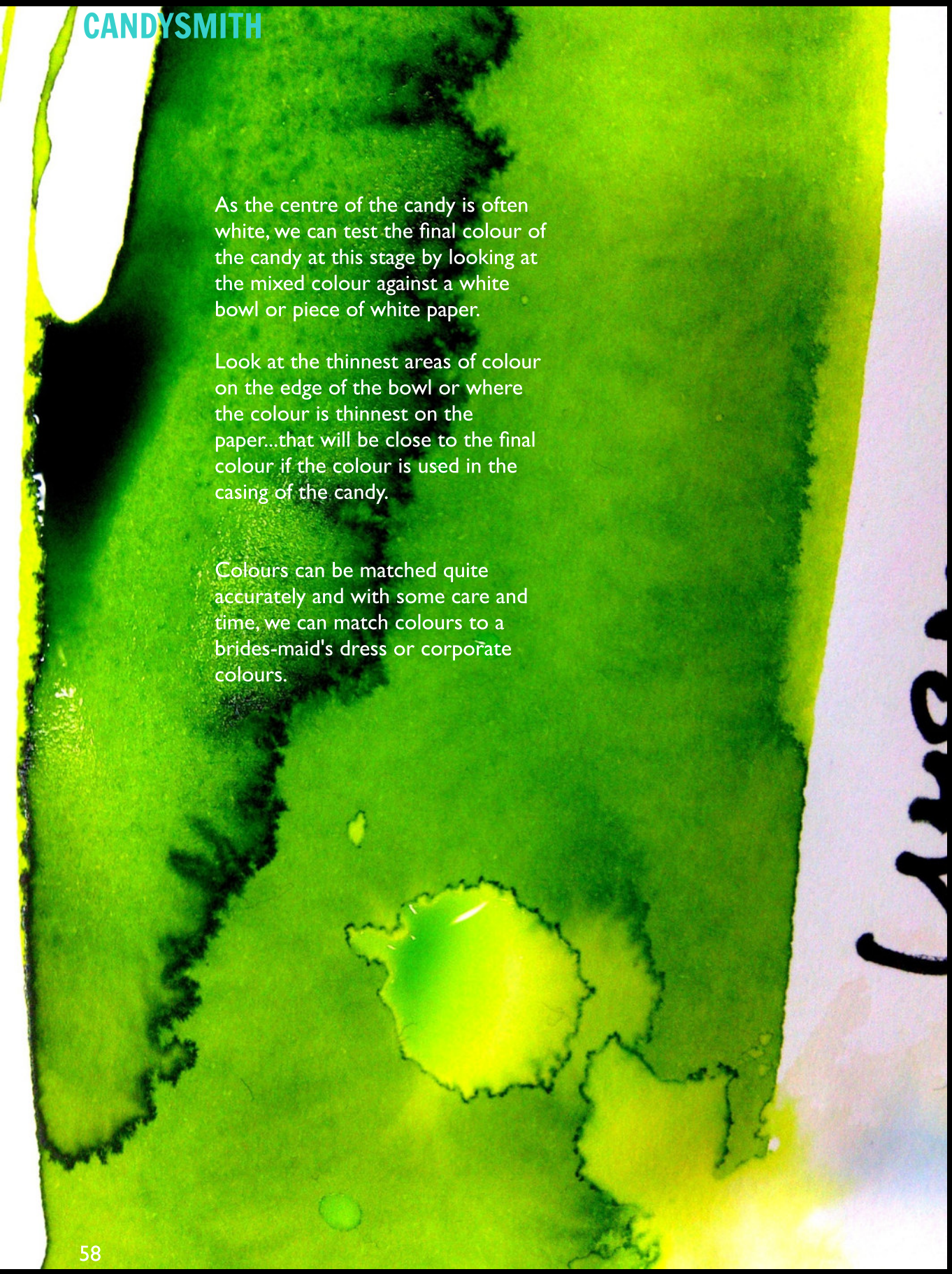
Bottles should be labelled with date of mixing and brand / supplier of colour, and any mixed combinations should be noted on the bottle.

Mixed colours should be stored in the refrigerator between use.

To test colour, mix a small amount of powder colour with hot water, mix well with a fork or whisk. Wait until cool, then use a paint brush or your finger (with glove on) and test over a white background. The hue and saturation can be seen this way.

Colours are water soluble and should be mixed with water before use. It is important to mix the colours so they are very concentrated. Adding too much water back into the candy again after boiling can cause the candy to be sticky when cool.

Some candy makers use alcohol such as Vodka to mix colours with. The alcohol will evaporate quickly when mixed into the candy therefore reducing the risk of sticky candy.



As the centre of the candy is often white, we can test the final colour of the candy at this stage by looking at the mixed colour against a white bowl or piece of white paper.

Look at the thinnest areas of colour on the edge of the bowl or where the colour is thinnest on the paper...that will be close to the final colour if the colour is used in the casing of the candy.

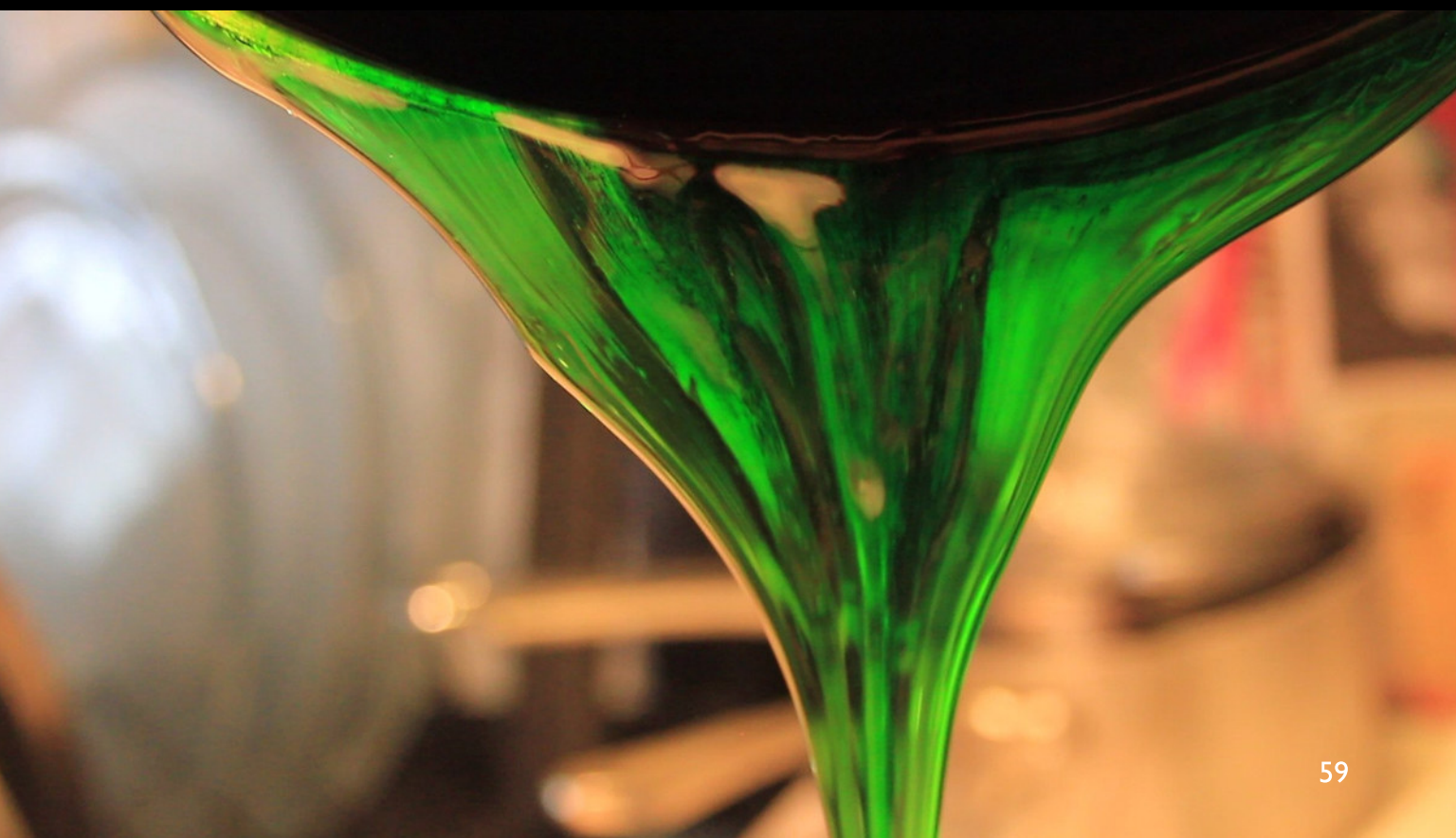
Colours can be matched quite accurately and with some care and time, we can match colours to a brides-maid's dress or corporate colours.

a word about natural colours

Trainees and clients often ask about 'natural' or 'organic' colours. Sometimes for health reasons, sometimes for marketing reasons. There are several companies that market their products using their 'natural colours' as a hook for capturing sales. However these companies are often making candy to their own designs and colour choices, not to the demands of corporate clientele or for the mother of a bridezilla who demands the colours match exactly to their chosen gowns. We once had a wedding client (mother of the bride) who threatened to sue us because the colours of the candy did not match exactly to their bridesmaid gown colours. Seriously!
(Always have a disclaimer on your order form that states the colours may vary a little from the sample to protect your business from psycho mothers-of-the-bride like that one.)

I prefer to use the colours that have been designed and developed specially for hard candy making, that are stable under various pH levels and suitable for use in high temperature hard candy making applications.

Some natural colours will have an aroma when added to the hot sugar that may impart a slight flavour to the candy, for example, natural yellow comes from tumeric, and will have an Indian curry aroma when using in candy. Also this natural yellow can fade in sunlight, causing a yellow candy to turn white, or if the yellow was mixed with blue to make green, then you will have pale blue candy after a week or so. The natural green colour can come from chlorophyll and has a very earthy grassy smell to it, and has a dark, dirty colour. Not really suitable for making a bright lime candy with. Having said that, by all means, do your own experimentation and you may discover some natural colours that are stabilized for use in hard candy and can be mixed together to form any shade you desire.



Matching colours of the candy to a sample of a bridesmaid dress for a wedding order. Testing your colour on white paper first is key to getting a good colour match.

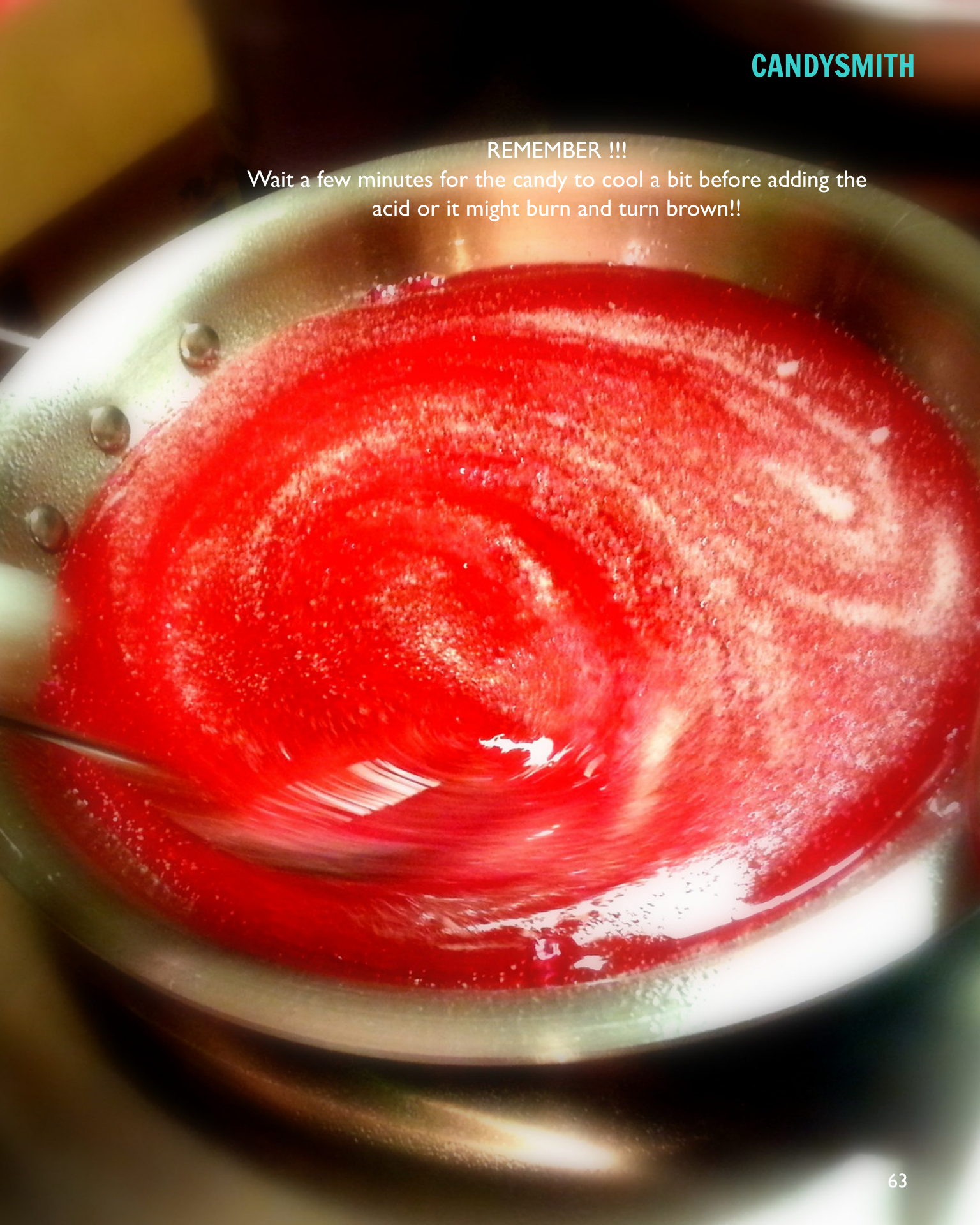
After adding colour to the candy, check colour by holding up your mixing fork and looking through the candy against a white background.

acid

In some recipes, powdered acid is added to replicate the natural 'tang' that is found in most fruits. The acid is mixed into the candy AFTER the colours are added, to allow some cooling of the syrup. The acid can burn and turn brown if added too soon. For example, we will pour the sugar into the pans, then add the colours, then wait one or two minutes, then add the acid. We use citric acid (E-330) for citrus fruits such as lime, lemon, orange and grapefruit, and we use malic acid (E-296) for fruits like apple (the name of malic acid was taken from the latin for apple from where it was first discovered), and also strawberry, grape, watermelon, passionfruit and other fruit candy requiring a sour tang. We will also use tartaric acid (E-334) in some flavours, such as cola. We can use a combination of acids to find the perfect balance of sourness, depending on which candy we are making.

In the case of extra-sour acid drops, we add a lot of acid to the candy, and also coat the outside to increase the sharp, sour taste.
You can find acid at most bakery suppliers and confectionery suppliers. Most supermarkets will have small packets or containers of acids.
Use around one to two tablespoons of acid per 1kg (1000g) of candy.

Citric acid and caster sugar lightly coating pillow candy to add a sour tang to the fruit flavour. Try mixing different ratios to give more or less 'sourness'.



REMEMBER !!!
Wait a few minutes for the candy to cool a bit before adding the acid or it might burn and turn brown!!

kitchen SAFETY & etiquette

There are several things that help the work flow and ensure the safety of those in the kitchen / studio when we are working. Some things to remember are:

1. We are working with extreme temperatures of sugar which can cause severe burns. This must be respected at all times and no messing around near boiling pots or the pouring table will be tolerated.
2. When the sugar has nearly reached the pouring temp of hard crack (295 - 310 F) the candy maker should make all staff aware that the pot will be poured and to stay clear of the area.
3. Some of the flavours used are highly flammable and should never be left open. They should be returned to the storage area ASAP after measuring flavours.
4. The flavour to be used in the pot should be kept away from the stove while the pot is reaching temperature.
5. The stove flames should be completely off before mixing flavour.
6. It is important to have a clear area around the pot when mixing flavours should some unexpected reaction occur, and an exit is required.
7. Due to the heavy nature of the pot when candy has been boiled, good communication between pourers should be observed to ensure no complications with direction or handling occur. If two people are pouring then both pourers should understand where they will go and ensure the path is clear for them to approach the pouring table. Appropriate hand protection should be used at this time.
8. Footwear should be comfortable, non-slip and fully enclosed to prevent burns from drips or spills.
9. When passing behind someone in the kitchen it generally known that the word 'behind' is said as you pass, to ensure no accidents happen from someone turning with a sharp tool or hot pot etc. This will become second nature for all your work in this kitchen and others.
10. The stretching / pulling of sugar can be strenuous and proper technique should be observed. This includes foot placement and correct fitting hand protection. The heavy nature of the work requires the stretchers to be warmed up and ready, to prevent any back or shoulder injuries.

the basic recipe

The recipe for most of our work is as follows.

To make 1000g hard candy:

WATER 200g

SUGAR 1000g

GLUCOSE (liquid 43BE) 400g

1. add water

The water is ALWAYS added to the pot FIRST. The water should be room temp, not hot or boiling.

We try to use filtered spring water or pure filtered rainwater if available.
The water should be room temp - not boiling.

For a 2kg batch of candy, we add 400g (or 400ml) water to a a heavy based 5- 10 litre pot, for a 3kg batch we add 600g (600ml) water and so on.

The water should be weighed with accurate scales. Many measuring jugs are not very accurate and can cause a lot of problems. Test your measuring jug on scales.

NOTE: 1000ml of water = 1000g (grams) of water (at sea level).

The sugar should be dry with even crystal size and be free of impurities or lumps.

2. add sugar

Add sugar to the pot by pouring slowly into the centre of the pot, being careful not to splash water and sugar up the sides of the pot as this prevents the need for too much stirring of the sugar and reduces the need for cleaning sugar crystals from the sides of the pot.

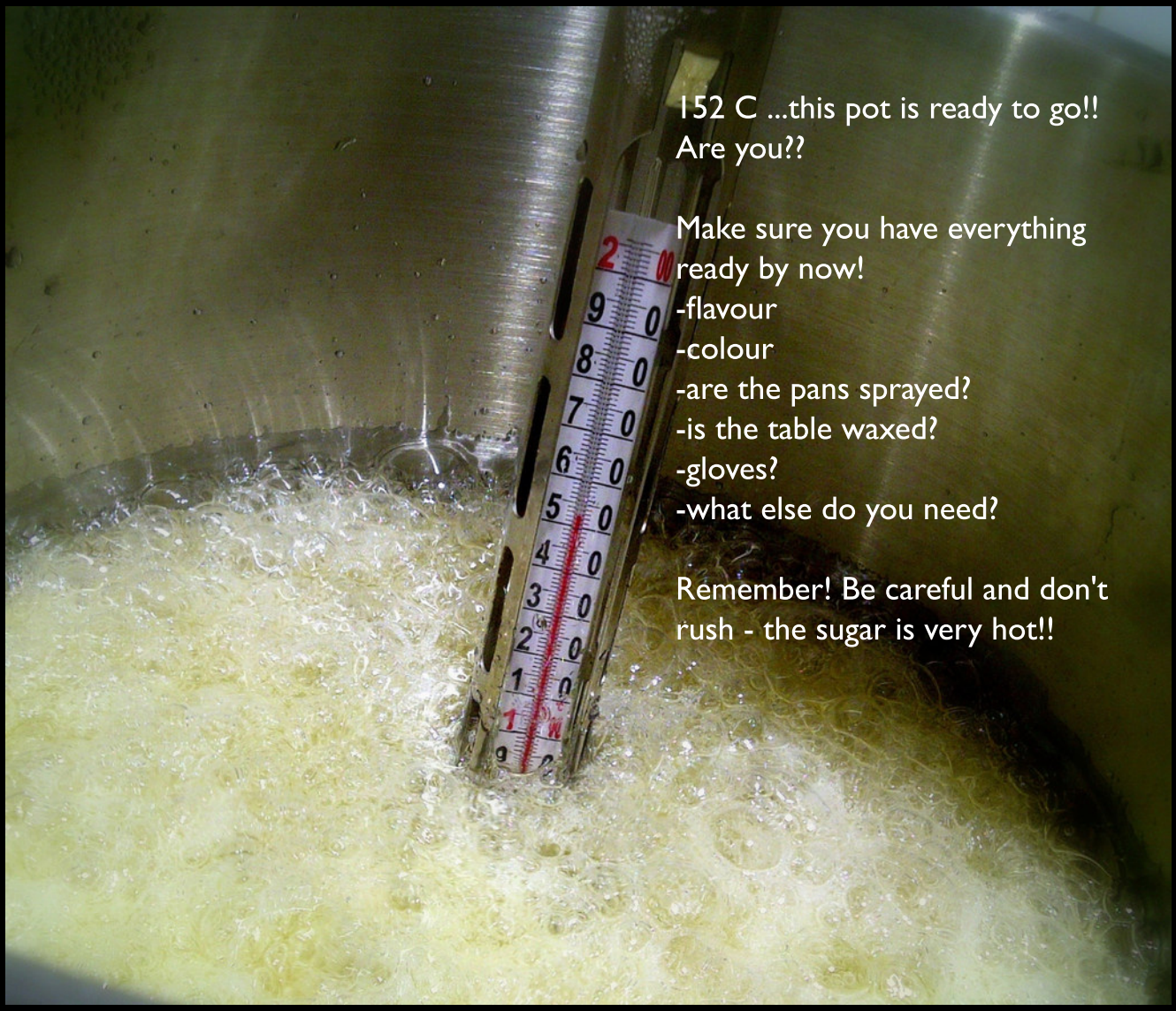
3. add glucose

The glucose is added next.
As a standard rule, we use 30% - 40% of the weight of sugar in glucose.*
So if we are using 2kg graded sugar then we add 800g of liquid glucose.

So, given the ratios, we can determine how much sugar/water/glucose will be needed for any size batch we would like to make.

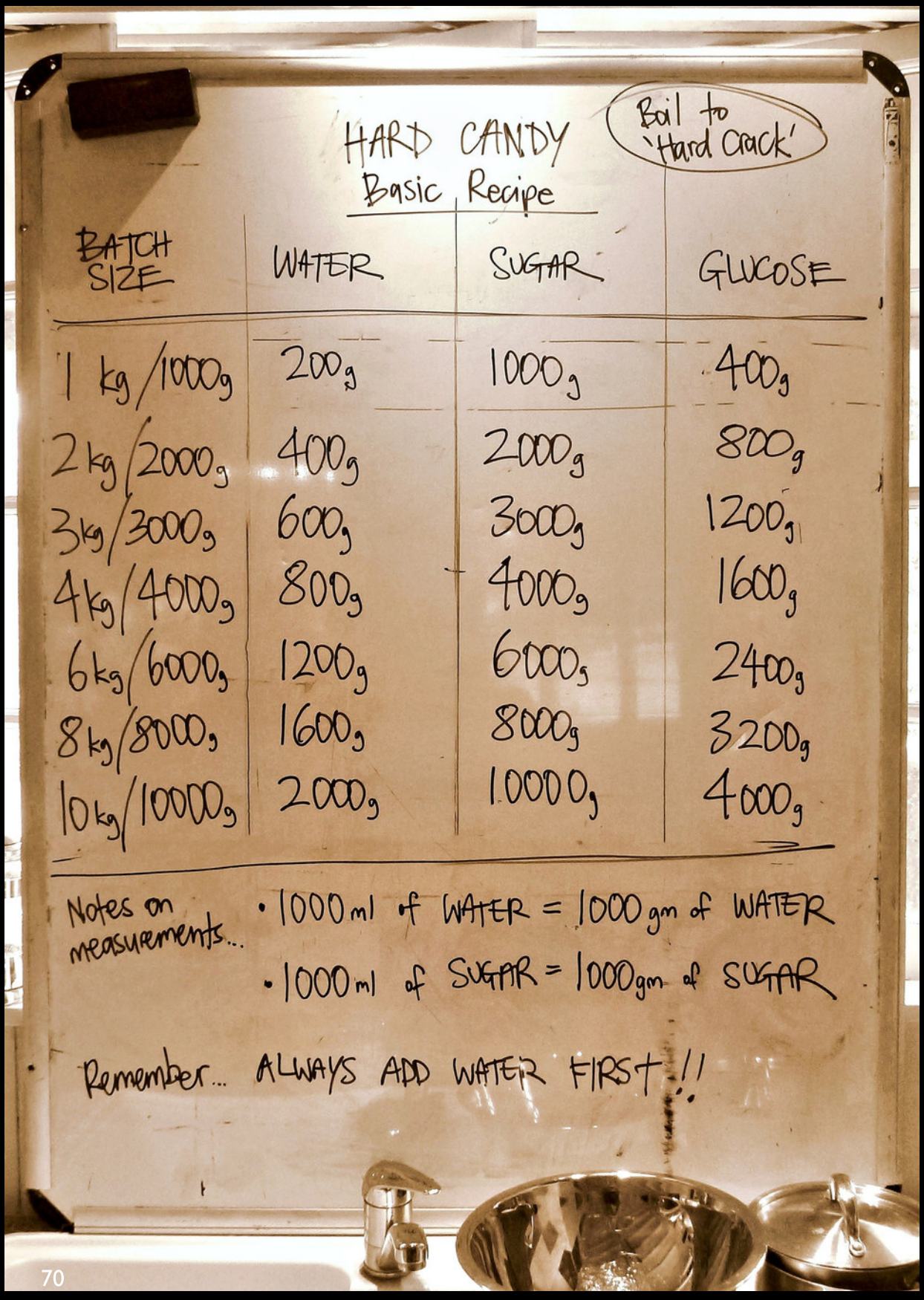
One way of adding glucose to the pot is to use a smaller pot to weigh the glucose in, and place the entire pot into the larger pot. Once the sugar has come to a boil, the glucose will melt out of the small pot and the pot can be removed. This will save a small amount of glucose each time, and over the course of a year, this daily saving will add up to a large saving of glucose, which equals a large saving of money.
The glucose should be weighed in a stainless steel bowl or small saucepan. The bowl or small saucepan can be placed directly into the pot after the sugar is all wet. Use a spoon or the saucepan handle to stop the small bowl/pot from lying flat on the base of the boiling pot. After we start to cook the sugar, it will only be a few minutes until we remove the pot. The glucose will melt out of the bowl, which can be removed from the pot using tongs or a cloth, being aware of the hot steam, and being careful not to drip any hot sugar on your hands or feet. Each batch you boil like this will save a small quantity of glucose, which over a year will be quite a lot and save a lot of money.

*This varies depending on the ratio of solids to water in the liquid glucose (or corn syrup), and can vary slightly from from different brands / suppliers. Viscosity will be an indication of this.


152 C ...this pot is ready to go!!
Are you??
Make sure you have everything ready by now!
-flavour
-colour
-are the pans sprayed?
-is the table waxed?
-gloves?
-what else do you need?
Remember! Be careful and don't rush - the sugar is very hot!!

4. boil

After the water, sugar and glucose are in the pot, we can begin to boil the sugar.
THE LID CAN BE ON THE POT FOR ABOUT 2 OR 3 MINUTES AT THE VERY BEGINNING, WHEN THE SUGAR IS STARTING TO SIMMER, TO HELP CLEAR SIDES OF POT FROM ANY SUGAR GRAINS, BUT SHOULD BE OFF FOR THE BOILING TO ALLOW FOR EVAPORATION OF THE WATER.
The sugar will pass through several 'stages' that have been named after the characteristics of the sugar when a small amount is dripped into cold water, or drawn between the fingers of an experienced sugar boiler.
Names such as soft ball or thread or soft crack all refer to these characteristics.
There is a chart on the following page with temperatures and descriptions of each 'stage'.
NOTE: due to evaporation of water during the boiling process, the total amount (weight) of candy we pour out of the pot is less than the weight that we put into the pot.
We will boil the sugar until it reaches 'hard crack' 300 - 310 degrees F.



HARD CANDY
Basic Recipe

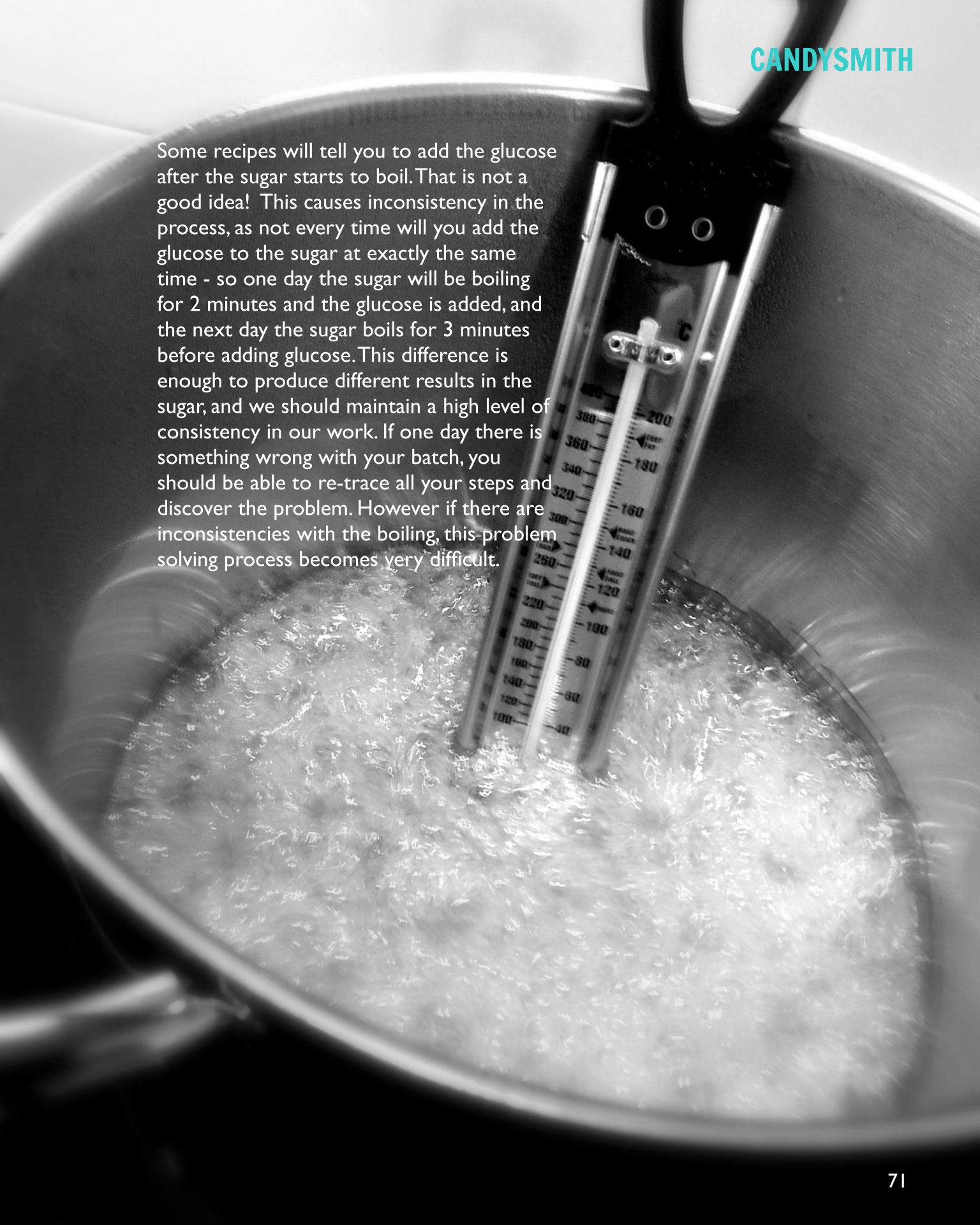
Boil to 'Hard Crack'

BATCH SIZE	WATER	SUGAR	GLUCOSE
1 kg / 1000g	200g	1000g	400g
2 kg / 2000g	400g	2000g	800g
3kg / 3000g	600g	3000g	1200g
4kg / 4000g	800g	4000g	1600g
6kg / 6000g	1200g	6000g	2400g
8kg / 8000g	1600g	8000g	3200g
10kg / 10000g	2000g	10000g	4000g

Notes on measurements...

- 1000ml of WATER = 1000gm of WATER
- 1000ml of SUGAR = 1000gm of SUGAR

Remember... ALWAYS ADD WATER FIRST !!



Some recipes will tell you to add the glucose after the sugar starts to boil. That is not a good idea! This causes inconsistency in the process, as not every time will you add the glucose to the sugar at exactly the same time - so one day the sugar will be boiling for 2 minutes and the glucose is added, and the next day the sugar boils for 3 minutes before adding glucose. This difference is enough to produce different results in the sugar, and we should maintain a high level of consistency in our work. If one day there is something wrong with your batch, you should be able to re-trace all your steps and discover the problem. However if there are inconsistencies with the boiling, this problem solving process becomes very difficult.

We can measure the temperature with a thermometer or by using the ‘cold water test’.

The 'cold water test' is an old-school way of testing how the candy will behave when it is cooled. The names of the stages refer to this.

NOTE: some recipe books and sugar boiling tables will have slightly differing temperatures as the range for each stage.

Testing the sugar with the cold water test is a very good way to ensure the sugar is ready to pour, and should be practiced often.

On the day that you break your thermometer and have no back up thermometer, with an 8kg batch cooking and 4 orders to do, you will be glad you understand how to test the sugar this way.

boiling stages...the cold water test

THREAD STAGE

230 F – 235 F -sugar concentration 80%

When the sugar is dripped into cold water, it forms a liquid thread that will not ball up.

SOFT BALL STAGE

235 F – 240 F -sugar concentration 85%

When dripped into cold water, it forms a soft flexible ball. This will flatten easily after a few moments.

FIRM BALL STAGE

245 F – 250 F -sugar concentration 87%

When dripped into cold water, it forms a ball that will hold its shape - it can be squeezed flat.

HARD BALL STAGE

250 F – 265 F -sugar concentration 92%

The sugar syrup forms thick threads as it drips from the spoon.

When dripped into cold water, it forms a hard ball, that won't flatten unless squeezed hard.

SOFT CRACK STAGE

270 F – 290 F -sugar concentration 95%

The bubbles in the pot are smaller, thicker and closer together.

When dripped into cold water it is slightly flexible and sticky on the teeth.

HARD CRACK STAGE

295 F – 310 F -sugar concentration 99%

At this stage, there is almost no water left in the syrup. When dripped into cold water, it forms hard brittle threads that crack when bent. The candy cracks against the teeth. This is the stage we cook our candy to. On humid and rainy days, the sugar will take longer to get to the hard crack stage and may need to be cooked to higher end of the temperature range to achieve true 'hard crack'

The sugar will be slightly coloured, not clear like water.

CLEAR LIQUID STAGE

320 F -sugar concentration 100%

All the water has now boiled away. The sugar will be light amber in colour.

BROWN LIQUID STAGE

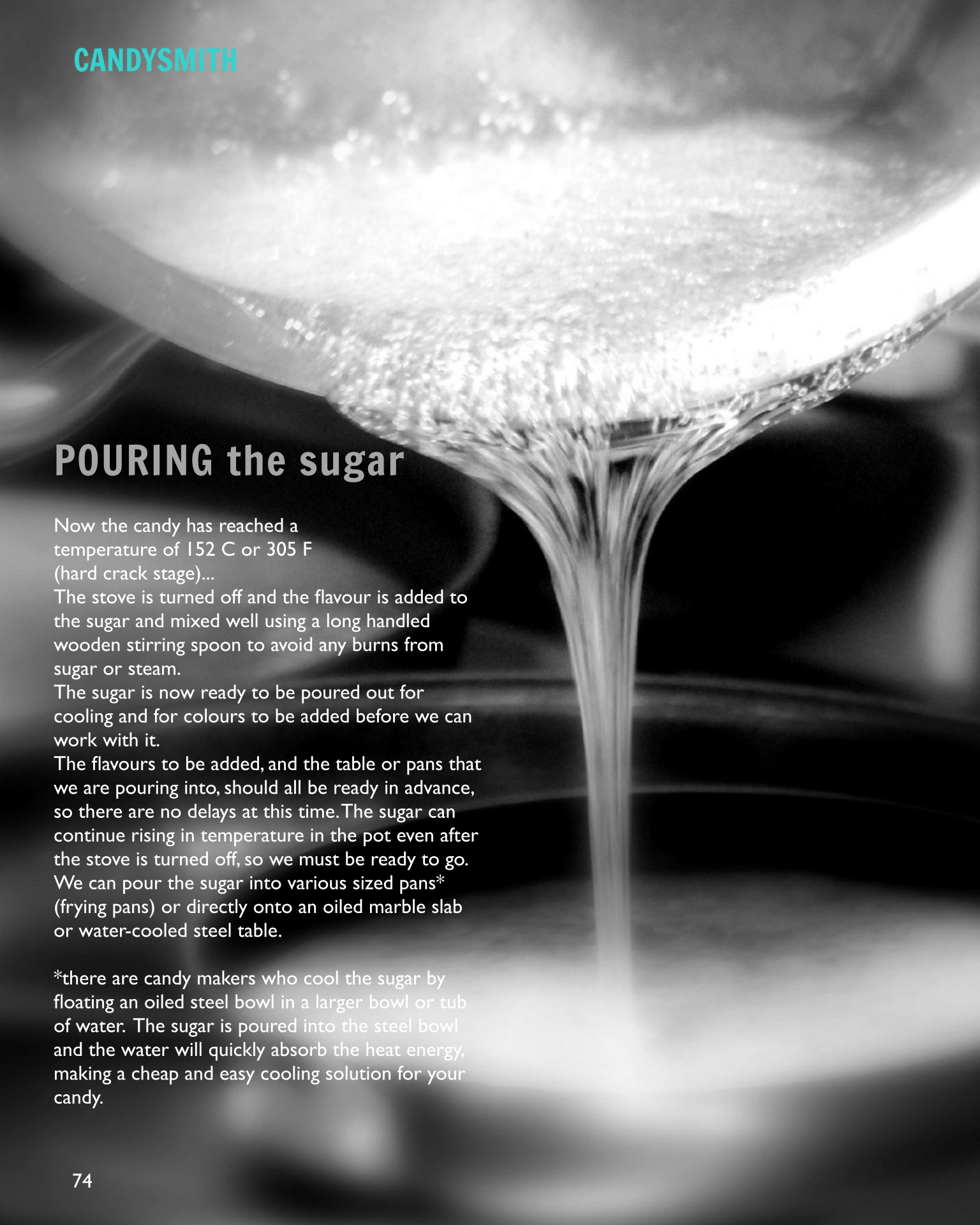
338 F -sugar concentration 100%

Caramelization has turned the sugar brown. The sugar is now breaking down to form complex compounds that contribute to a richer flavour.

This can be used for coating nuts and in some cases is used as a base for sauces and flavours.

The next stage is known as **BURNT SUGAR** –

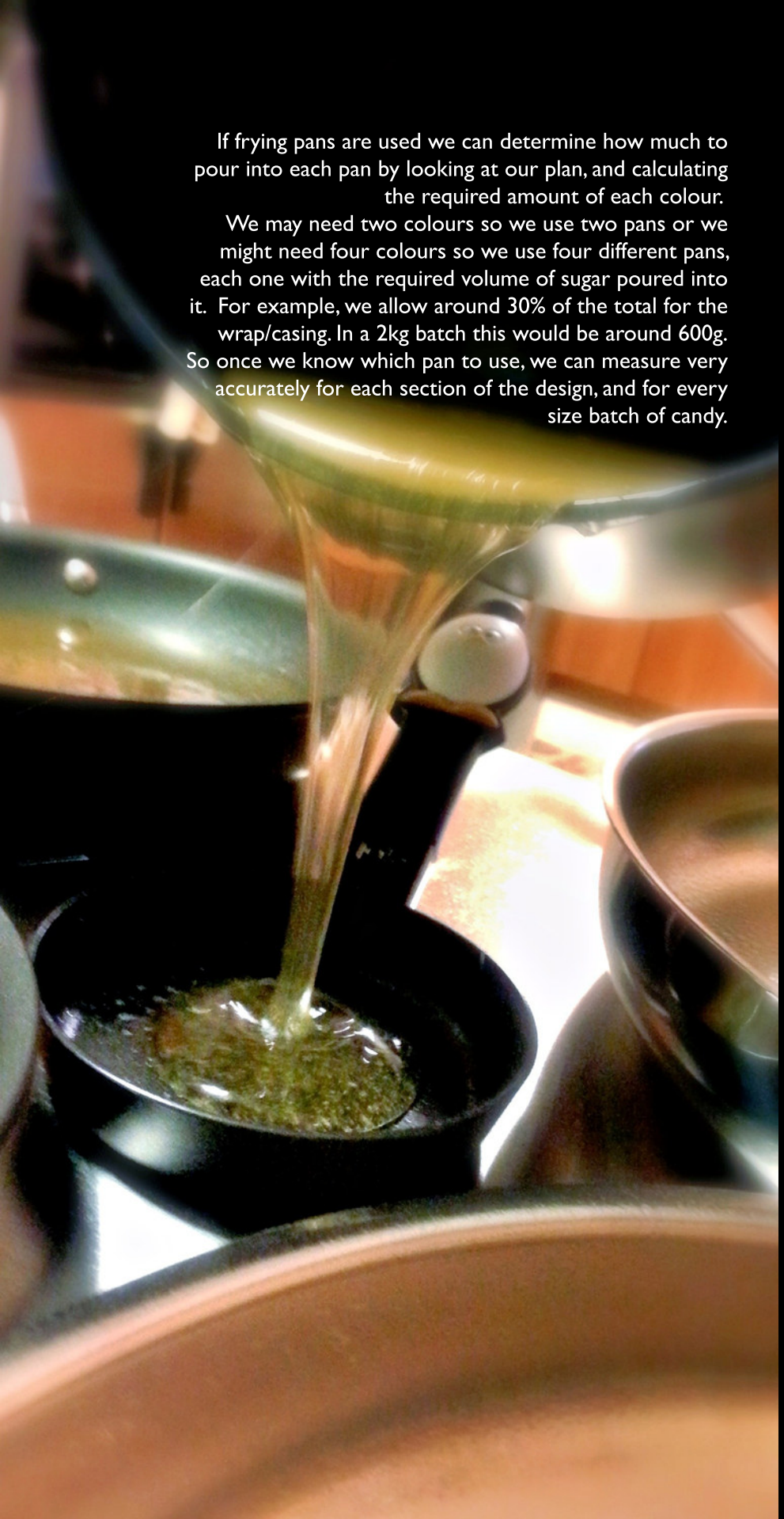
350 F - Bitter tasting - volatile and extremely hot.



POURING the sugar

Now the candy has reached a temperature of 152 C or 305 F (hard crack stage)...
The stove is turned off and the flavour is added to the sugar and mixed well using a long handled wooden stirring spoon to avoid any burns from sugar or steam.
The sugar is now ready to be poured out for cooling and for colours to be added before we can work with it.
The flavours to be added, and the table or pans that we are pouring into, should all be ready in advance, so there are no delays at this time. The sugar can continue rising in temperature in the pot even after the stove is turned off, so we must be ready to go.
We can pour the sugar into various sized pans* (frying pans) or directly onto an oiled marble slab or water-cooled steel table.

*there are candy makers who cool the sugar by floating an oiled steel bowl in a larger bowl or tub of water. The sugar is poured into the steel bowl and the water will quickly absorb the heat energy, making a cheap and easy cooling solution for your candy.

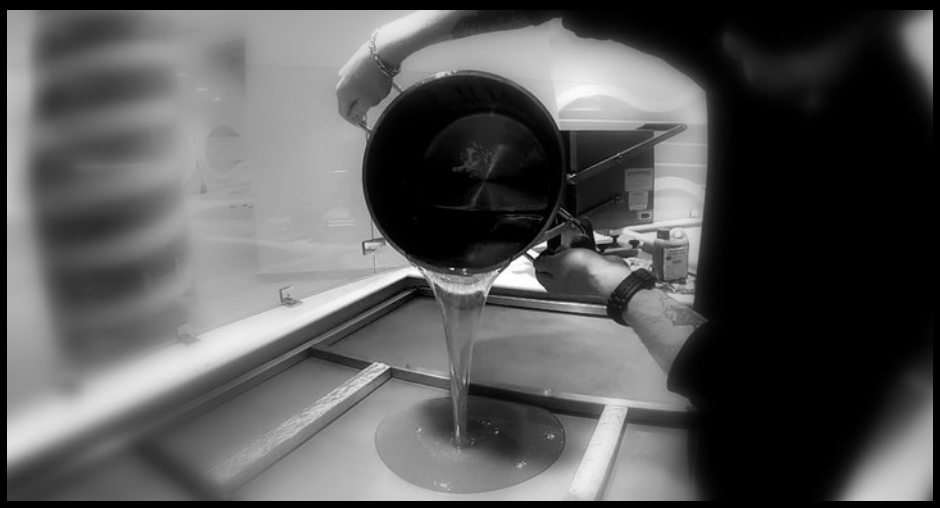


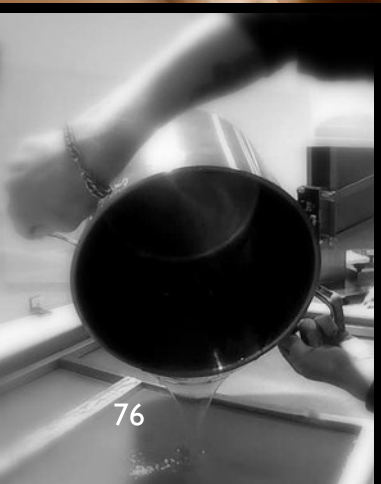
If frying pans are used we can determine how much to pour into each pan by looking at our plan, and calculating the required amount of each colour.
We may need two colours so we use two pans or we might need four colours so we use four different pans, each one with the required volume of sugar poured into it. For example, we allow around 30% of the total for the wrap/casing. In a 2kg batch this would be around 600g. So once we know which pan to use, we can measure very accurately for each section of the design, and for every size batch of candy.

If small sections of colours are needed we can pour a small amount of sugar into a small pan, add the required colour, and then cool before moving to the hot/warming table to use as we need.

The sugar should be around 20mm-25mm thick in the pans. Too thin and it will cool too fast, giving us no time to add colours - too thick and it will take too long to cool down and possibly stick in the pans.
If the candy is poured out onto a water-cooled table or marble slab, we use bars to keep the sugar at the best thickness to allow enough time to add colours (and acid if needed) and to stop the sugar from pouring onto the ground.

The colours are added to the candy by pouring a little colour onto the sugar, then mixing with a spatula or fork, being careful not to let the colours run across the surface of the sugar or down the sides next to the bars. If colours run down under the sugar, it can create a bit of a sticky situation as you try to mix colours into sugar that has already cooled. As the colors are added to the slab of poured hot candy, they will bubble and boil instantly as the room temp liquid hits the 140-150 degree C sugar. The colours are added with the required sizes in mind, so they can be cut into various sized sections as the candy cools. Any hard edges that were against the bars are folded back into the hotter sugar to re-soften. This can be tricky with a very small sized section of sugar.





Pouring the sugar onto a marble slab table with control bars set at the correct distance apart to give us a suitable area to pour into so the sugar will be around 20mm thick, giving us enough time to add colours and acid before it cools too much. The coloured candy will be cut into sections and moved to a cooler area of the table, for more cooling if needed, before being moved to the hot table to work with.

problems with crystals

The importance of even sized crystals of sugar cannot be over-stated. We have experienced several situations where the sugar was of an inferior quality, and the problems that this caused resulted in losing many training and production days and lots of money, and created many headaches along the way. Sugar that is wet or damp, or contains contaminants from the refining process can cause graining (reforming crystals) in the candy, and an entire batch can be lost due to this.

CANDYSMITH

When the sugar comes to the boil, there may be some bubbles that form and rise up the sides of the pot. In some cases, when the sugar contains lots of impurities, the boiling sugar will have lots of foamy bubbles that can rise up the sides of the pot, and maybe even over the edge. A lot of foamy bubbles is a sign that either the sugar or the glucose contains a lot of impurities and that graining of the batch is more likely to occur. There may also be a grassy / earthy smell to the sugar too, rather than an attractive sweet sugary aroma.

The picture at the bottom right shows a pot after the bubbles have subsided, and sugar residue remains around the edge of the pot. This should be removed by using a pastry brush dipped in water to brush away / dissolve the residue sugar. However, even doing this can be too late to prevent graining, and in a well boiled batch, using high quality ingredients, we will never have bubbles rising up and leaving this residue. So, it is of high importance to find the best supplier for your ingredients, to ensure consistent and high quality results.

colouring the sugar

Care should be taken, when adding colours to the candy, not to let the colour run against the side bars. The colour can run under the candy and be difficult to mix in, leaving you with unmixed colours on your table and hands, and creating a messy situation. Try not to mix too deep with the fork or mixing tool as this can also cause colours to run under the cooling sugar.

The sugar is still very hot at this stage and we need to be very careful when cutting the candy.

Any rushing or break in concentration can result in serious burns.

the FRYING PAN THEORY

I wanted to find something else to pour the sugar onto or into, not just a custom made marble slab table or an expensive and heavy water-cooled table, but something that could be adapted to any situation and was easily transportable, endlessly expandable, while improving consistency and safety and of course, not be expensive to set-up.
So the idea went like this...

the frying pan theory...

We usually pour the sugar out of the pot, onto a table, within a controlled area, where we add colour, and cool it down enough to be able to cut it into various sized sections, which are then used for various parts of the candy.

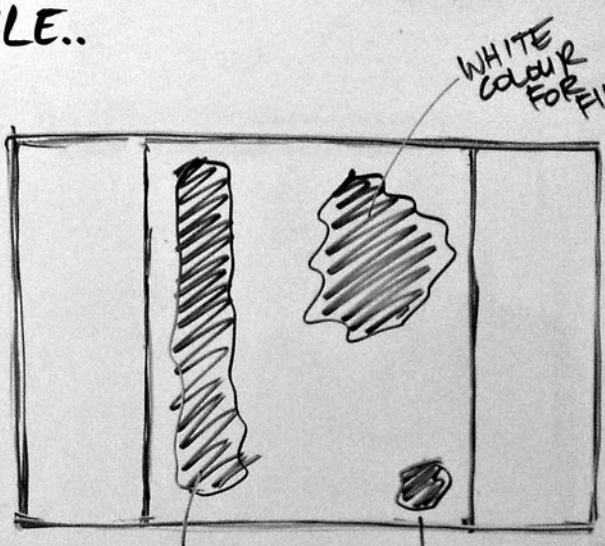
But the candy is cut in the almost the same place almost every time (eg; the casing is usually 30% of the candy), so we thought adding another bar would help, so we started placing an extra bar on the table to separate the section for the outside colour from the rest of the sugar - this saved time in cutting and also meant the section was the same size every time.

So then, why not place more bars on the table and divide the sugar up into the sections we need, and eliminate the need for cutting, thereby saving time, and adding a higher level of consistency? So we added more bars. This worked reasonably well, but now there were too many bars, and they were a little hard to keep in place so then we thought, it would be so much better if each of these sections could be moved, with a handle, and then picked up from the table without any cutting or moving bars.

Now what would possibly be made of steel, be available in various sizes, be used for food, and have a thick base that will absorb the heat from the sugar, and have a handle for us to pick up...?

The idea was so simple... Use frying pans of various sizes to pour the sugar into, then add whatever colours were needed. Pour the coloured candy into a second frying pan to cool even further for a few minutes, and maybe once again, into another pan, before it is cool enough to handle and move straight onto the hot table.

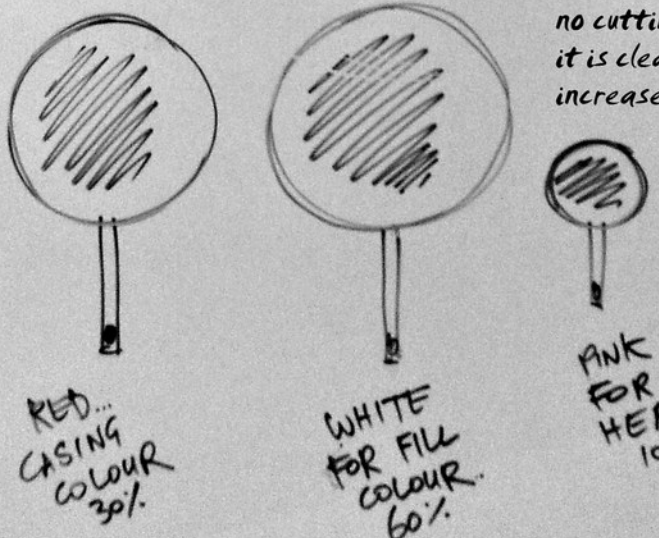
THE TABLE..



The sugar needs to be cut into sections of colour.. then moved to a different part of the table for more cooling before being taken to the warming table

THE PANS..

Using the pans for each section of colour.. no cutting is needed.. it is cleaner, easier and increases consistency



If we also had a marble table in the studio, we would pour into the pans for size control, add the colours, then pour out onto the marble slab, to cool, before moving to the hot table. Fast and easy.

Pouring the sugar into frying pans (or size-control pans as they became known) was a simple change, and yet it changed everything - totally portable, easy to clean, countless sizes and shapes, endlessly expandable... Simple. Easy.
We now can make tiny sections of colour for a small 2kg batch, and move the pan directly onto the hot table to stay warm while the white or other colours are being stretched, and come back to the table with all of the candy still warm, soft and not stuck to each other.

In the above picture, the yellow and red are starting to mix, and the green already looks like a mess... consistent results are very difficult with this process... this is why we use pans to size the sections of candy.

The liquid colours will boil and bubble instantly, as they hit the 150 degree C sugar.
We add around 2 tablespoons of colour per 1000gm of sugar. Sometimes a little more, but too much will cause the sugar to be sticky. We use concentrated colours so we don't add too much liquid back into the sugar.
After the sugar cools for a few minutes, we add acid, depending on the flavour we are using. If the acid is added too soon it will burn and turn brown. After this we can pour out the candy and cool it further before moving to the hot table.

everybody be COOL...

After colours and acid (if using) are added to the candy, the mass is poured carefully from the pan into a second pan to cool further. The thickness of the base of the frying pan will determine how much heat energy can be absorbed from the sugar into the pan. The best pans will have a thick base, most likely of copper with a stainless steel covering. The sugar is allowed to cool for a minute or two before being poured to a third pan, or if the first pan has been cooled, the sugar can be transferred back into the first pan.

If a marble or granite slab, or a water cooled table is being used to pour the sugar mass onto, and no pans are being used for sizing, then once the colours are mixed, the candy is allowed to cool to a workable temperature and thickness, then cut and separated into each of the sections of colour.

If the sugar is sticking to the scrapers, quickly scrape the blade of one scraper against the other. Even small amounts of sugar on the blade will cause problems.
Scrapers, scissors and heat proof gloves are used at this stage to reduce chances of burns, and for hygiene.

The sugar will soon be cool enough to handle. From there the candy is taken to the hot table. The sugar is around 70-80 degrees Celsius at this stage. Control of the temperature of the candy is vital at this point. If it cools too much, then working on the hot table will be more difficult than necessary.
The candy should be soft, pliable, thick enough to pick up without dropping/dripping onto the floor, but soft enough that we can stretch, cut, and make shapes from the sugar without cracking or breaking.

cooling and moving to the hot table

If you are using a cooling table or marble slab table to pour the candy onto, then you will need to cool the various sections of coloured candy before moving them to the warming / hot table.

We use flat scrapers and lifters to fold the hot candy over, being very careful not to let any part of the sugar get onto our hands, as it can still cause serious burns at this stage.

The candy maker should move smoothly and keep a careful watch on what they are doing. Trying to rush or move too quickly here can cause the candy maker to push their hand into the hot sugar or even flick hot candy onto a member of the public (I have seen this happen in a store where the candy makers were trying to put on a fast show rather than be careful about what they were doing).

The table will be very hot where the sugar was poured onto so we will move the sections of candy to the outer part of the table where it is cooler. If any smaller parts of the candy have gone too hard, they can be placed on a hot part of the table to reheat and soften before moving them onto the hot / warming table.
Smaller parts will cool quickly and we need to be careful not to over-cool any parts of the candy as it will make our work very difficult.

The candy will be moved to the outside part of the table, for more cooling if needed.

Scrapers and lifters should be perfectly clean and have no sugar at all stuck to them. Any sugar stuck on scrapers will cause more sugar to stick to them and create a big mess, which is very frustrating. So be sure to keep the tools clean by scraping the edge of the scraper blade against the edge of another scraper.

CANDYSMITH

When the candy is ready to be moved to the warming / hot table, it will be have a thicker consistency, and we can pick it up without the candy dripping all over the table. It will still be very hot at this stage - around 65 - 75 degrees C, so we need to very careful not to get burnt.

This is a part of the demonstration that an audience will enjoy, so with time and practice, it can be done with flair to keep crowd entertained, and the more the crowd is entertained, the more they will come back. And the more they come back, the more they will buy.

When the candy is ready, it is moved to the hot table. The cooling table should be cleaned by an assistant or kitchen aid as soon as possible to ensure we are ready and prepared for the next batch.

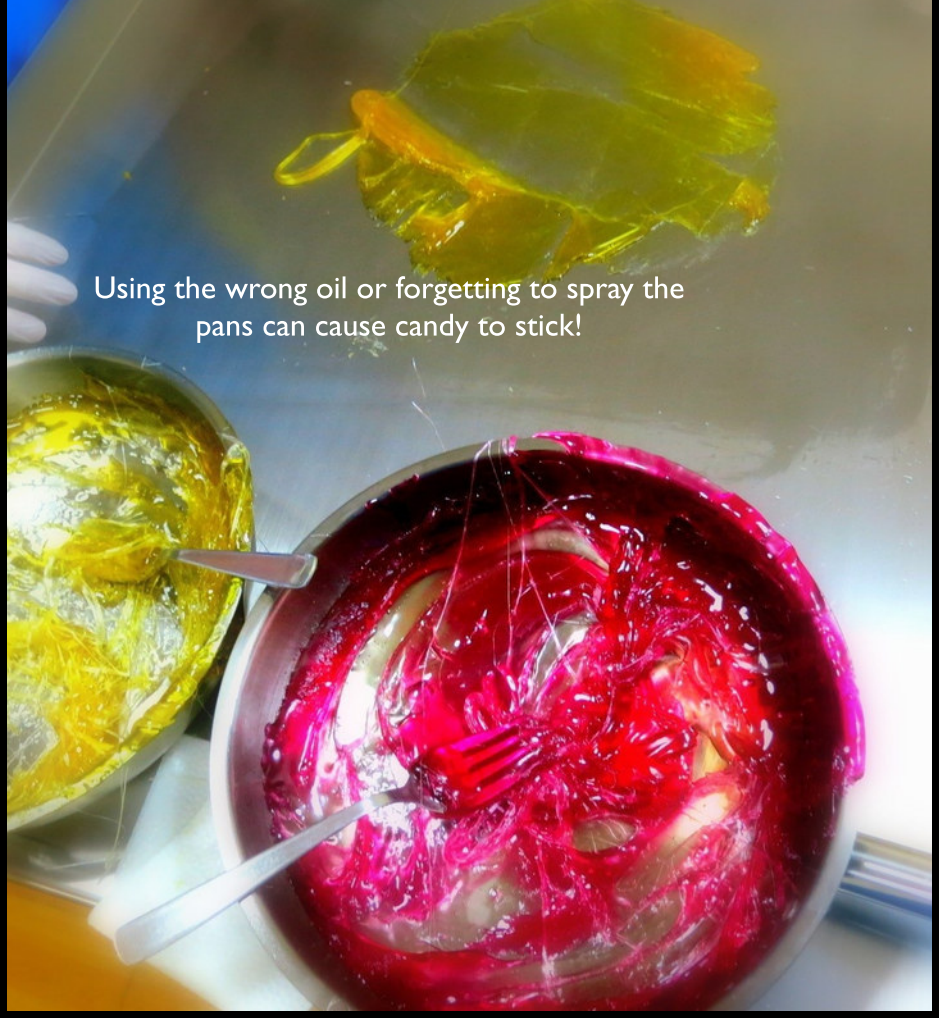
We can test the temperature of the table with our hands. After some time, and with some practice, you will able to tell exactly if the table is too hot or too cool. Sometimes we will keep the table warmer in one area. With a good understanding of the table, you can control the temperature of your work perfectly. Sometimes we need to keep parts of the candy cooler than others so they hold their shape better. Sometimes we need to soften some of the candy by keeping it in a warmer area. It all becomes clear with practice.

The silicone mat can also be used to move the candy and to help with folding the candy when it is still very hot.

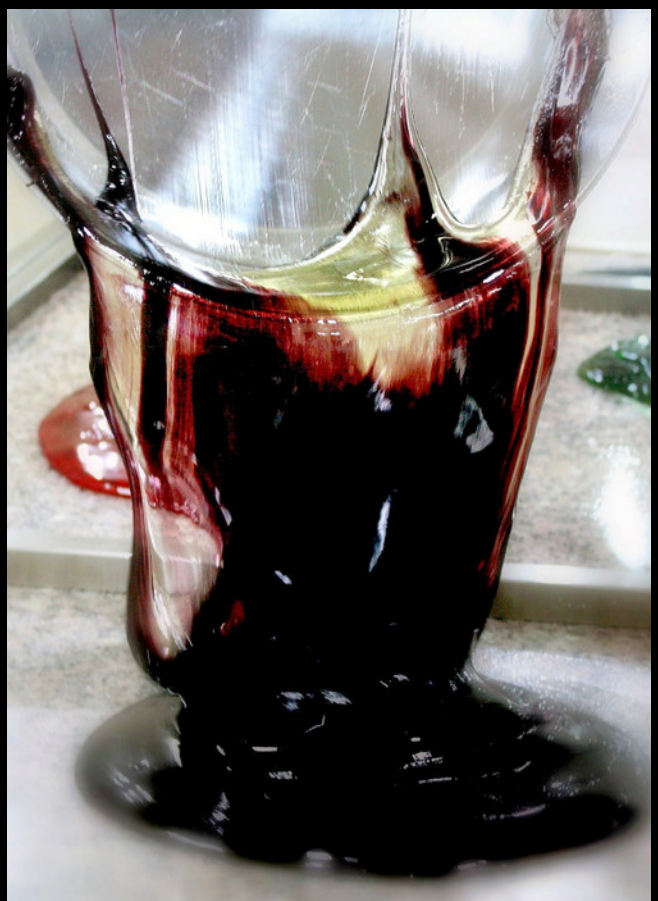
The candy should be folded several times to make sure there are no hard areas that have cooled down too much, and to make sure that there is no oil on the surface of the candy that will cause problems later in our work (such as when the sugar is being pulled on the hook or when we are making shapes).

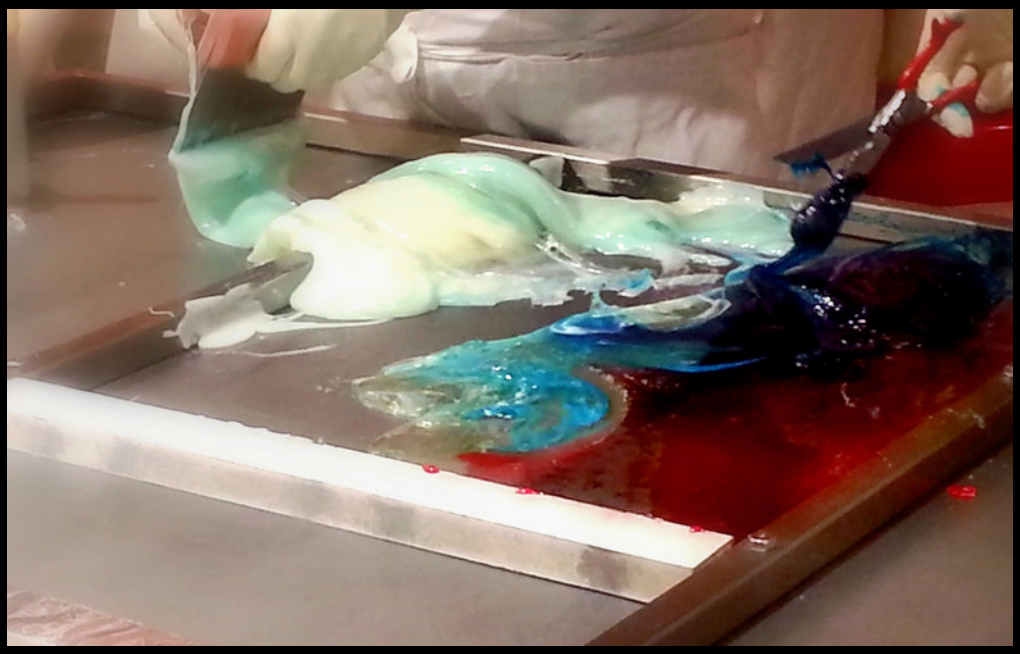
CANDYSMITH

To prevent the candy from sticking to the pans, we must use a release spray or cooking spray, often used for spraying muffin trays and cake tins. Canola oil spray is easily found in Australia. The most well known internationally was PAM spray, but alternatives are just as good and often cheaper.
Using vegetable oil is not an alternative. The spray is so good that often we have even imported the spray from neighbouring countries if it was not available in the location of our training. The candy should slide freely out of the pans, with very minimal sticking.
Beeswax is used in many candy shops to prevent candy from sticking to the cooling table, however remember to warn consumers of possible allergy issues with beeswax / bee products.



Using the wrong oil or forgetting to spray the pans can cause candy to stick!





CANDYSMITH

The sticky situation pictured here can occur from trying to cut and separate the colours too soon, before they have cooled enough. This can also occur if the table is not sprayed / waxed before use. The tools and scrapers also must be clean without any candy stuck to them. Once they have any candy stuck to them, then a messy situation is likely to happen as more and more candy will stick. If the table has not been cooled, and is too hot, then the candy will not cool down enough and will stay hot, creating a situation where the sugar must be scraped to a cooler area at the side of the table. So, we should keep the table cool, well waxed or sprayed with cooking spray, and ensure our tools stay clean.

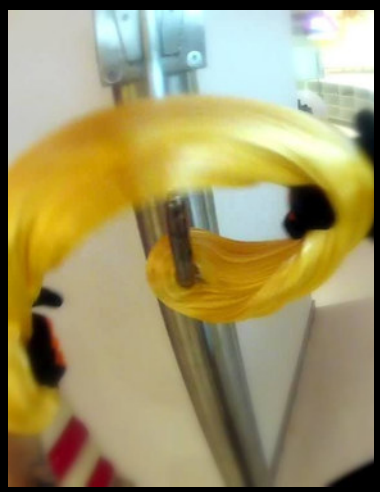
pulling sugar

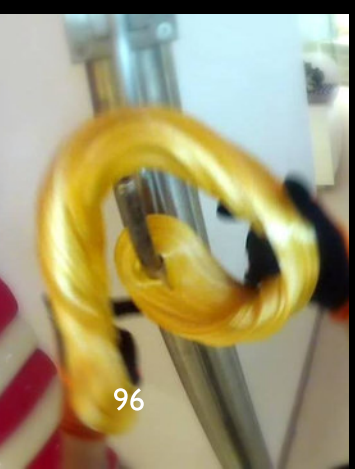
The process of 'pulling' (or 'stretching' as we call it in the plans sometimes) the sugar is the part some viewers will relate to as the most traditional part of the process.
This process essentially aerates (adds air to) the sugar. We can see small air bubbles in the finished rock from the stretching. It is similar to beating an egg-white or whipping cream. It may seem hard at first, however with time it becomes smooth and easy.
There have been stories told by customers of seeing candy factories with stretching hooks all along the wall and many men spending all day pulling sugar.

A clear off-white will soon change to an opaque white, softer looking candy as the air is folded into the sugar. The shine will change to a smooth white satin look.
Good technique is important and with practice, the process becomes less tiring.
There are many subtle colours and effects that can be achieved from various combinations of colours, by adding white, or by pulling a coloured candy over the hook only a few times to create a marbled looking colour. The results that can be achieved by stretching colours to various degrees can be wonderful.

The candy is pulled towards your body, using both hands, then one hand will let go and this hand will take the candy, about halfway along the stretched length, and then both hands will pull apart the candy, stretching it a little more, then the candy is flipped over the hook, and brought together again, and repeated.
We will repeat this pulling and folding about 30 to 50 times before it is ready.

Note:
On the plans further on this book, we sometimes refer to a colour being 'stretched' - this will usually refer to the colour being 'pulled' either on the hook or by hand. In some cases stretched may mean 'make longer' but usually it will mean pulled (folded over the hook).





Pulling sugar demonstration during training course in Riyadh, Saudi Arabia.

working on the hot table

Once the candy has been cooled to around 70+ degrees C (hot enough that you can pick it up without it being too soft and will hold its form, whist being soft enough to shape and fold) we will begin making the candy. Remember that the candy is ready right now - if we let it cool, it will already be hard candy, flavoured and ready to eat. All we are doing from this point on is making it into shapes, putting it all together and stretching it out. So the thing to focus on here is temperature control. If the sugar becomes too hard, due to cooling too much, then it will become increasingly difficult to work with, and will eventually break when bent or stretched. So to keep things easy, keep the sugar warm and workable. If the candy is kept under the heat lamp for too long, we can have problems with crystals forming in the over-heated areas... so a balance is required between too hot and too cool. Constant touching and moving of the candy on the table will give the candy maker a good sense of how the temperature of the hot table is, and if there should be any adjustments made to the temperature of the table or the distance of the heat lamps from the table.
At this point the candy maker will check the plans, then check all the sugar on the table, check all equipment, sponges etc. - all this is done in 20 seconds, just a final check before you start to get your mind set for working.

Visualization of the making process can be very helpful to successfully making the candy.

Making letters during a training course in Quito, Ecuador.

make a plan...

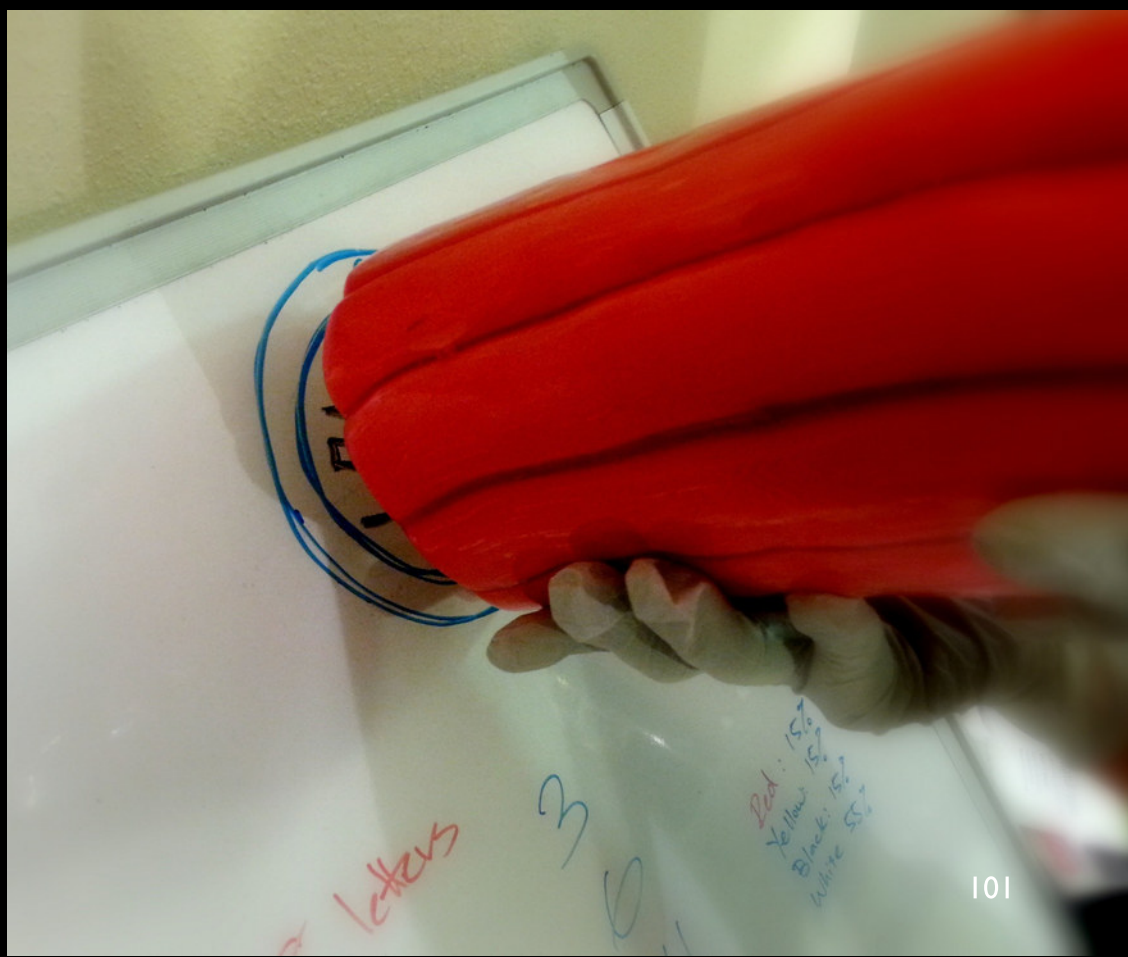
We use a whiteboard to plan each and every batch, even the simple ones that have been made many times before. When you draw the candy on the whiteboard, you run through the process step by step in your head and sometimes you will remember that you forgot to oil the table, or prepare the colours, or measure the flavour.
Drawing the plans helps us to see the shapes we need to make. They help us figure out how much of each colour we need, so the pouring table or size control pans are often included in the plans.
The plan that is made before each batch, especially the custom orders, is an important step in the process and will help us understand what we are doing.
As we can see, the letters or pictures are constructed in 3D - three dimensionally.
This means that when you look at the face or front of the letter or shape, it appears as it does when it is drawn on the whiteboard. Only when it you look at the side can we see the 'depth'...the 3D.

IMPORTANT!!
So if we draw the face / front of the candy to scale on the whiteboard, and make every piece the same length, we can use this plan to scale each piece as it is made.
Plans should be drawn to scale - 1:1
(meaning if the candy is held to the whiteboard it will be the SAME SIZE AS THE DRAWING ON THE WHITEBOARD.) This is a KEY part of working out how much colour you need and how big to make each piece. The more attention you pay to this part of the process, the easier it becomes.

Note:
Some of the plans on the following pages are from the On-Location and Online Training classes. I have tried to avoid writing them as you would see in a regular cook book. I have written some plans in a longer version, especially the simple candy designs at the beginning of our training, such as the spirals and heart and butterfly, but mostly I have tried to write the plans as you would see them in a classroom during a live training course.

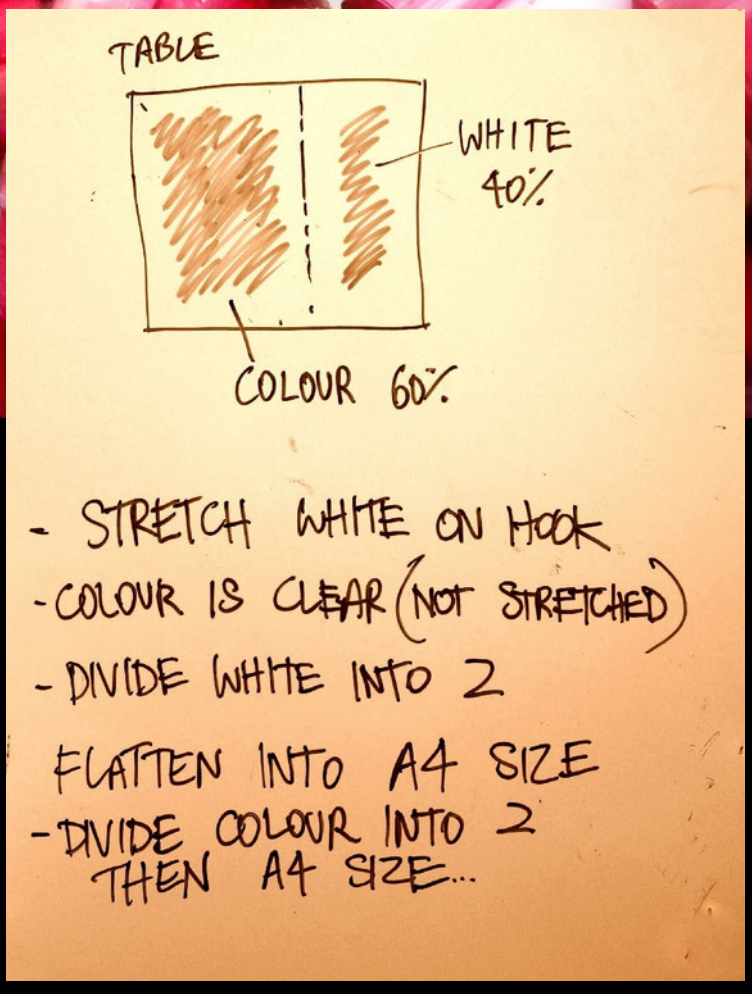
REMEMBER!
Plans are drawn on the whiteboard at a 1:1 scale.
This allows us to see exactly the size of the shapes and letters we need to make.

Whenever one of my students asks how to make this design or that design in a candy, the answer is always the same:
'First, draw a circle...'



the SPIRAL design

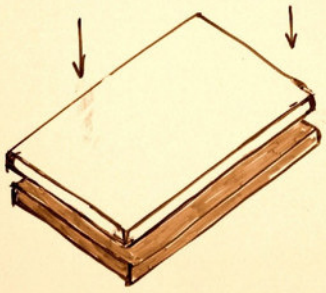
The SPIRAL candy is a great starting candy to make... made from 4 spirals that are all stuck together!



The plan drawing shows the pouring table when looking from above.

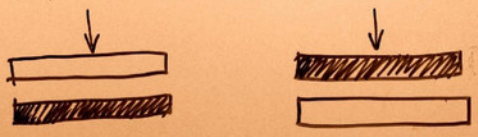
This is how we would draw the pouring table plan on the whiteboard in our training classes. It shows 60% of the sugar will have colour added and 40% will have white added.

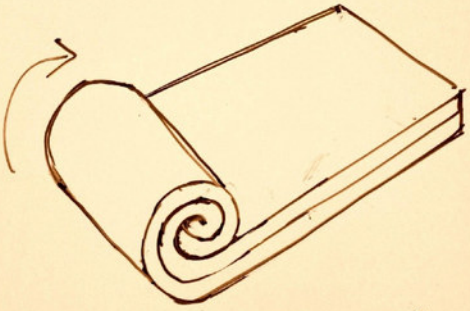
Two or four pans / skillets can also be used - one or two big pans for colour, one or two medium pans for white.



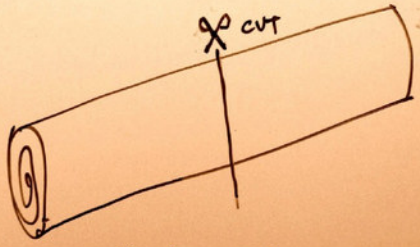
-STICK A4 SIZE WHITE ONTO THE A4 SIZE COLOUR PIECE...

-STICK A4 SIZE COLOUR ONTO A4 SIZE WHITE PIECE...



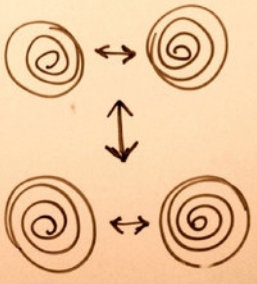


ROLL THEM UP!



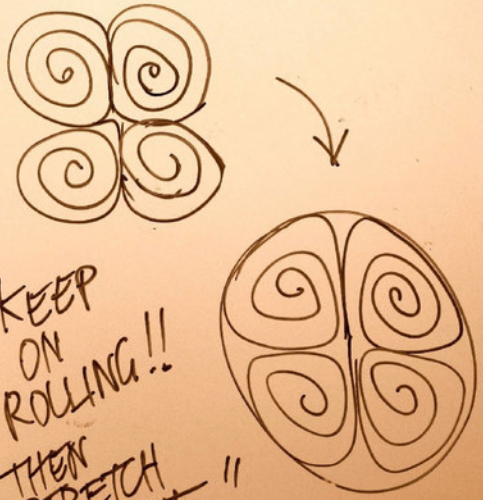
STRETCH TO ABOUT 50 cm AND CUT IN HALF

NOW THERE ARE 4 SPIRALS...
2 x WHITE
2 x COLOUR



PUT TOGETHER AND ROLL

KEEP ROLLING UNTIL OUTSIDE IS SMOOTH... THEN STRETCH INTO RODS etc...



KEEP ON ROLLING!!

THEN STRETCH OUT!!

The spiral candy is one of the easiest candy designs we make, and the first one we teach in our training courses. It is made by candy makers around the world, in many different flavours and colour combinations.
The most simple designs can also be a little tricky, and to get the spirals all going in the way you want can be a challenge at the beginning.

This candy is good for testing the boiling temperatures, the thermometer, the table temperature, the flavours and the colours, as it can be made very quickly and still looks wonderful. In fact, this candy will regularly out-sell the more complicated designs, as it appeals to all age groups.
It can be made from two, three or four colours, all flattened, and rolled up to form the spirals, which are then rolled together until smooth, then stretched and cut.

The two or three colour spiral candy teaches us about cutting one shape into two (or many more) rather than making the same shape again and again. This is a technique used in many of the fruit design candies and also when making letters for words that have the same letter more than once.

love heart rock

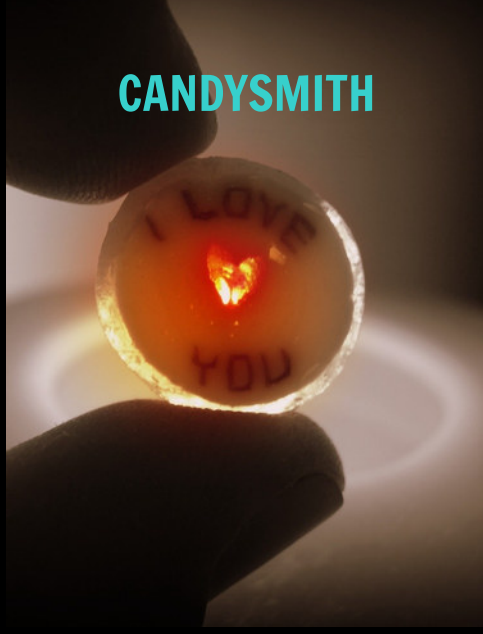
Love hearts are the most common shape you will make in the candy. Used in most wedding candy, for gifts on special occasions, such as Mothers Day, Valentine's Day and birthdays in all different colours and sizes.

The heart shape can be made very quickly and easily, in about 2 or 3 minutes once the process is well practiced.

Variations such as using stretched candy for the heart, and using unstretched or clear candy for the fill (negative space) can give interesting 3D effects.

MICHELLE
PETER

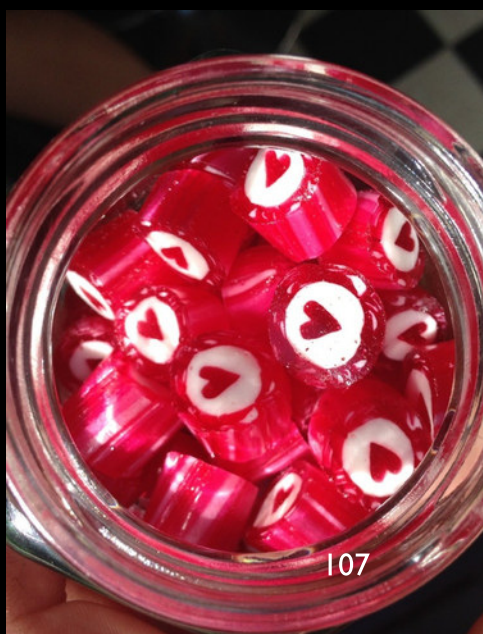
I LOVE
YOU

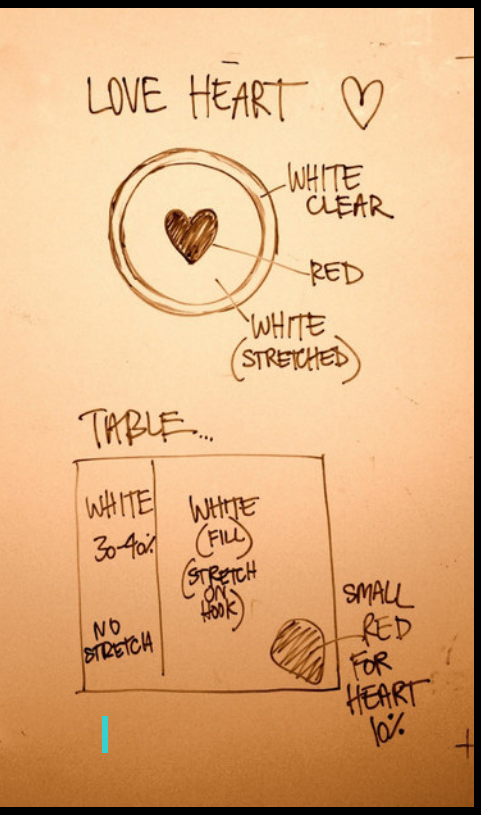

I LOVE
YOU

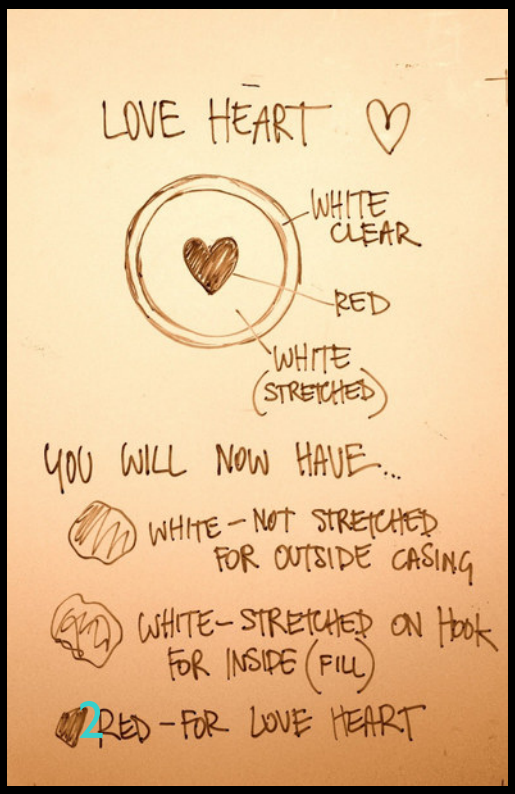
REPILEE
MILA

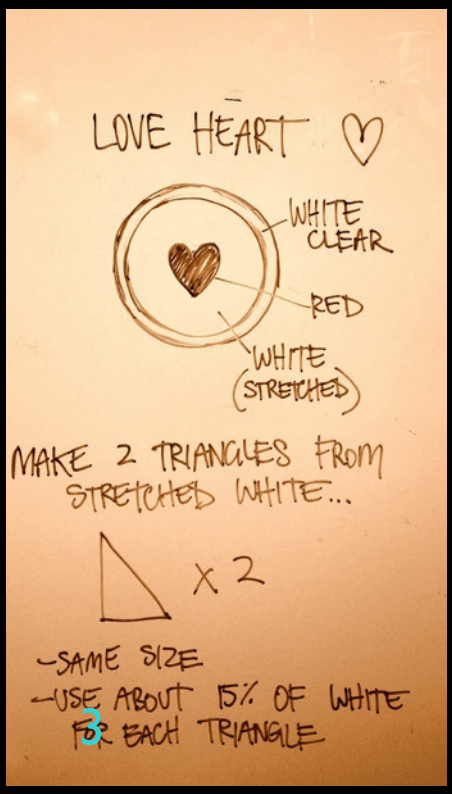
MUM
MUM
MUM

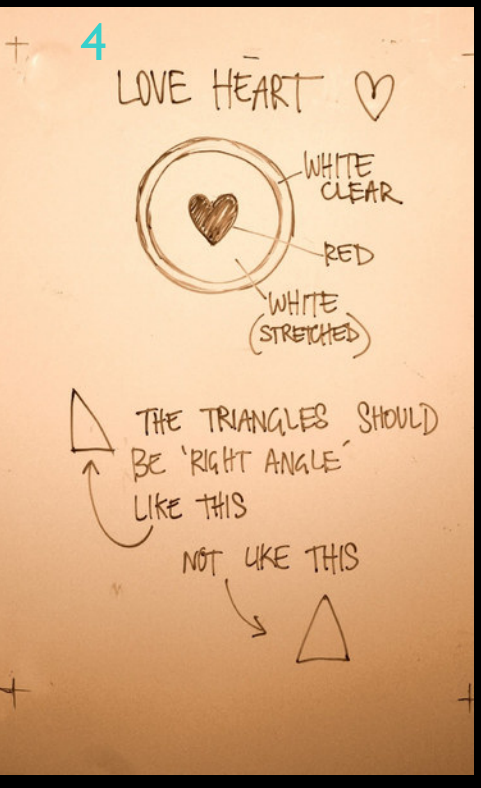
ELLEN
MARK
ELLEN
MARK
ELLEN
MARK

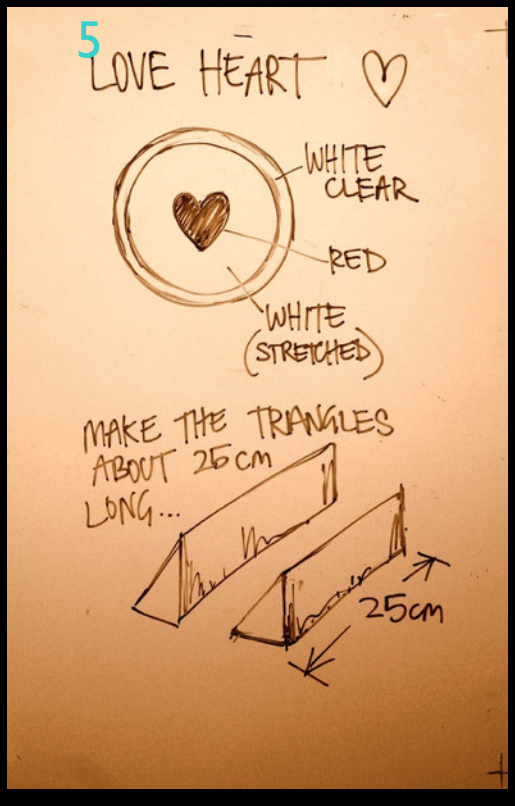


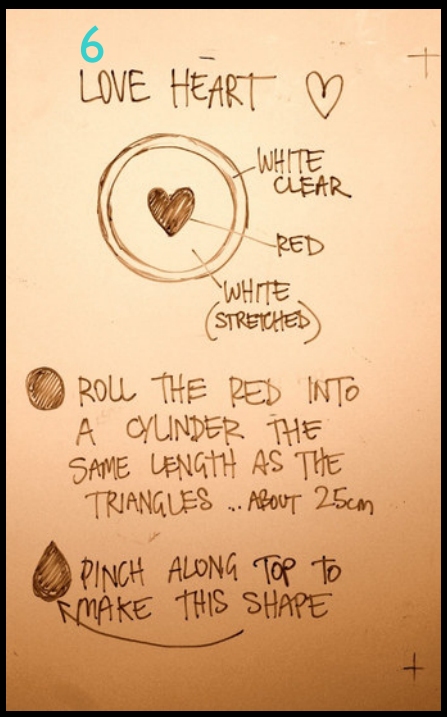

LOVE HEART
WHITE CLEAR
RED
WHITE (STRETCHED)
TABLE...
WHITE 30-40%
NO STRETCH
WHITE (FILL) (STRETCH ON HOOK)
SMALL RED FOR HEART 10%
1

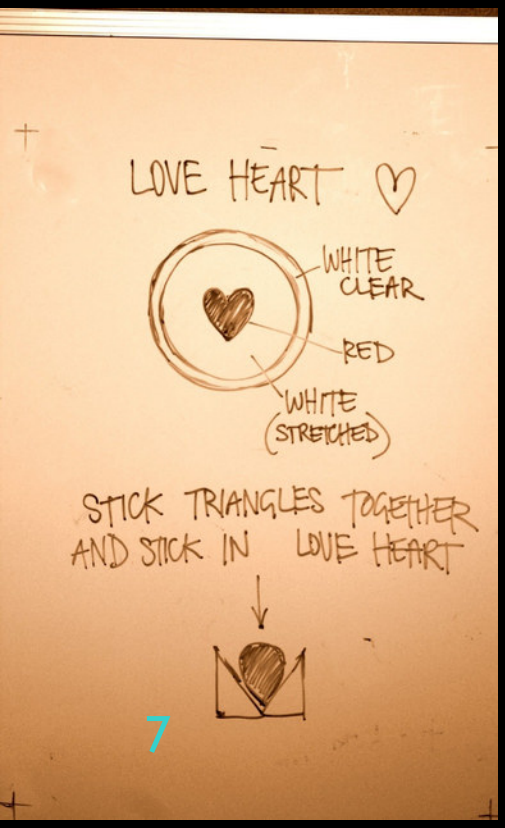

LOVE HEART
WHITE CLEAR
RED
WHITE (STRETCHED)
YOU WILL NOW HAVE...
WHITE - NOT STRETCHED FOR OUTSIDE CASING
WHITE - STRETCHED ON HOOK FOR INSIDE (FILL)
RED - FOR LOVE HEART
2

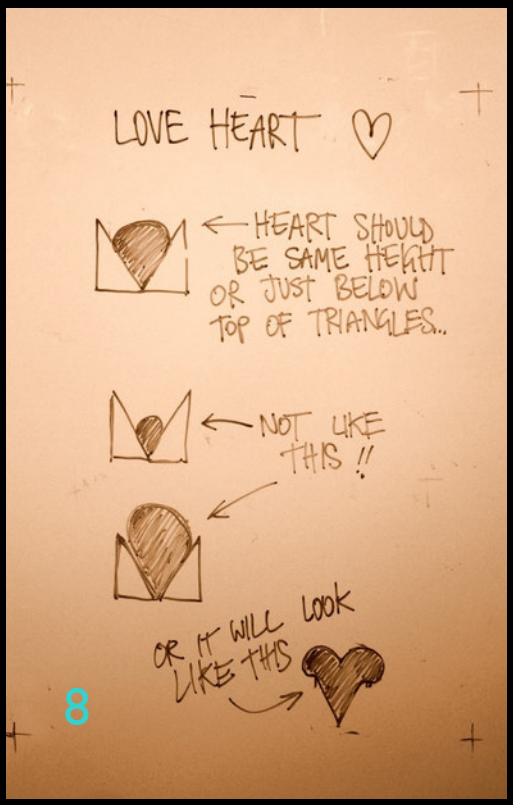

LOVE HEART
WHITE CLEAR
RED
WHITE (STRETCHED)
MAKE 2 TRIANGLES FROM STRETCHED WHITE...
x 2
-SAME SIZE
-USE ABOUT 15% OF WHITE FOR EACH TRIANGLE
3

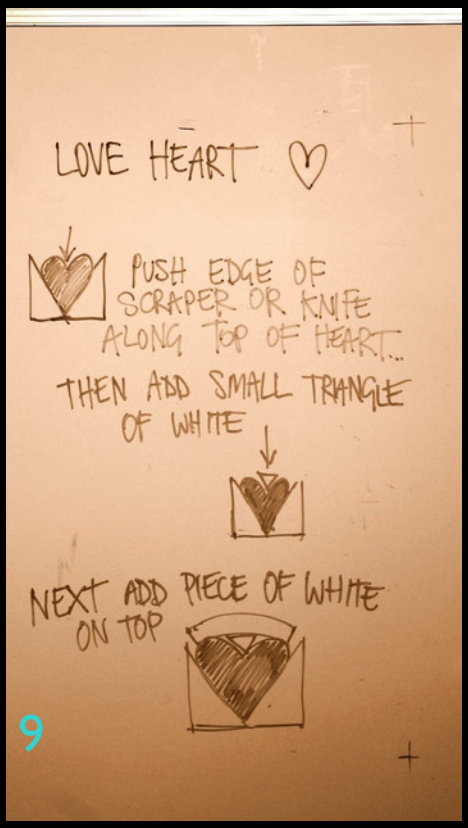

4
LOVE HEART
WHITE CLEAR
RED
WHITE (STRETCHED)
THE TRIANGLES SHOULD BE 'RIGHT ANGLE' LIKE THIS
NOT LIKE THIS

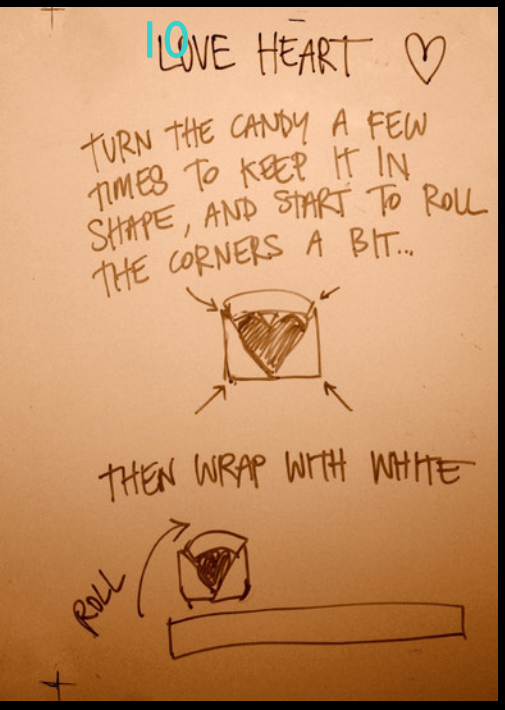

5
LOVE HEART
WHITE CLEAR
RED
WHITE (STRETCHED)
MAKE THE TRIANGLES ABOUT 25cm LONG...
25cm

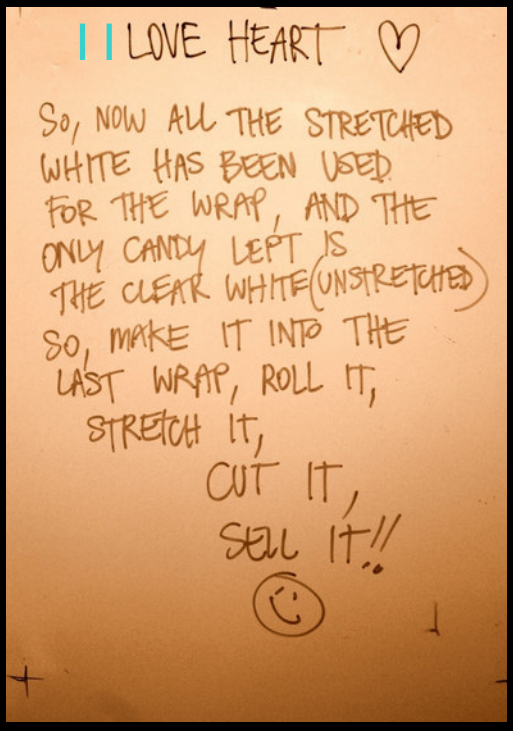

6
LOVE HEART
WHITE CLEAR
RED
WHITE (STRETCHED)
ROLL THE RED INTO A CYLINDER THE SAME LENGTH AS THE TRIANGLES .. ABOUT 25cm
PINCH ALONG TOP TO MAKE THIS SHAPE





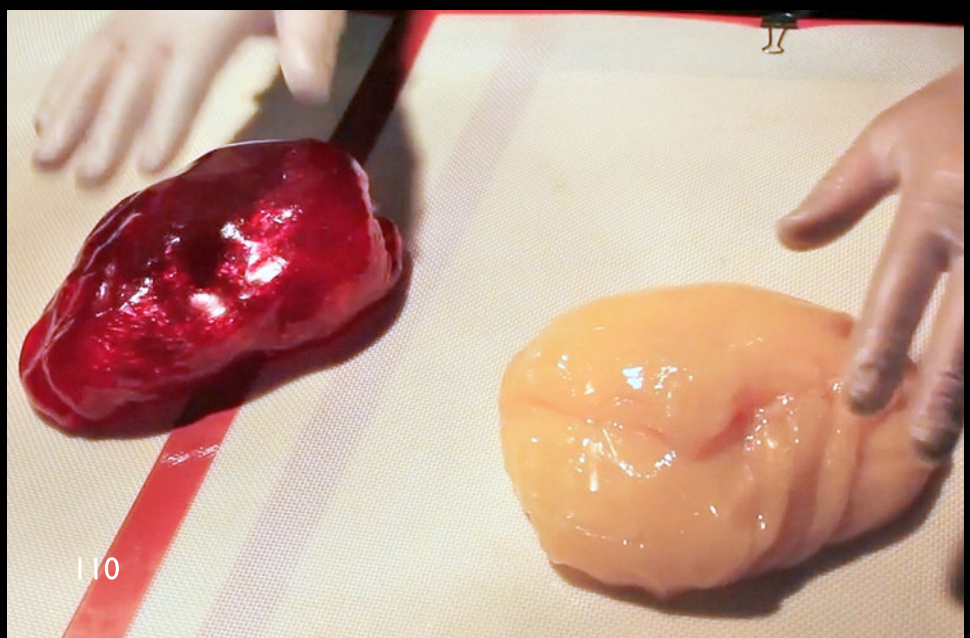

LOVE HEART
PUSH EDGE OF SCRAPER OR KNIFE ALONG TOP OF HEART..
THEN ADD SMALL TRIANGLE OF WHITE
NEXT ADD PIECE OF WHITE ON TOP
9




11 LOVE HEART
So, NOW ALL THE STRETCHED WHITE HAS BEEN USED FOR THE WRAP, AND THE ONLY CANDY LEFT IS THE CLEAR WHITE (UNSTRETCHED)
SO, MAKE IT INTO THE LAST WRAP, ROLL IT, STRETCH IT, CUT IT, SELL IT!!

The plans here are shown to you as they are written in a working candy kitchen, photographed on the kitchen whiteboard.
You will be preparing designs using a whiteboard or paper or other drawings but not always from photographs so it is important to get used to working from written plans as well as photos.

This candy design has a clear casing. The photos on the following pages show a heart candy made with a red casing. You will make many of both for wedding orders!



You will have about half colour and half white.
The white will get pulled on the hook.
A small piece of the red will be the heart and the rest will be the outside casing / wrap.

Pull / stretch the white coloured candy over the hook about 40 or 50 times. This will fold air into the candy and make it more crunchy with thousands of tiny air bubbles all through it.

The pulled candy can get stuck to the hook sometimes! Remember to keep the candy warm and get it back onto the hot table as soon as possible to keep it soft.

You will now half about half red and half pulled white.

Make 1 triangle, stretch and cut into 2.
Keep them in shape and turn over often to avoid losing shape.

Make the top cover by making two smooth curved channels in the flattened white piece.

The curved channels will be where the top of the heart goes. This will help keep the curved shape of the top of the heart.

Using a rolling pin to make the curved shapes for the top piece can really help with speed and consistency.

Cut off a piece of red and roll until around 25cm long. Roll on the cool table for about 10 to 30 seconds to cool just a little bit.

Pinch along the top edge to make a tear drop / heart shape.

Stick the two triangles together and then stick in the heart shape.

The heart shape stuck together

Use a scraper or blade to make a groove in the top of the heart.

Look under the top at where you are sticking the top on so the grooves line up perfectly.

The picture above shows the small triangle stuck in the top groove of the heart before the top is stuck on.
Either way is fine, as long as the top of the heart stays rounded and is not flattened by the top part. It might look like a big 'V'

The top is stuck on and then rolled to a cylinder before the white casing is added.

Flatten all remaining white. Keep rolling the heart candy to keep it in shape.

Wrap the white around and join together without overlapping.

Keep rolling the candy. It will start to flatten if you stop rolling for too long.

Make the outside red casing into a rectangle shape.

Dampen with the sponge.

Wrap the candy with the red casing.

Roll the candy log and start to squeeze at one end while turning and rolling. It will become a shape like a baseball bat or a wine bottle.
The candy is then stretched out, cut into thin rods or 'canes' around 60cm long, rolled until cool, and then cut into smaller 'rock' pieces.

happy face rock

The 'smiley' face or 'happy' face design is one of the first three designs we teach. It is a simple design to make, and can be made quickly with many variations.

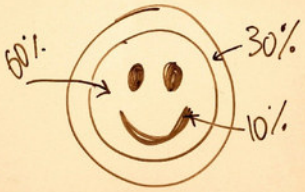
The design is popular with customers and is always a big seller for birthdays, thank-you gifts, and general retail sales with all age groups.

One eye is made, stretched and cut to make two eyes, then stuck on top of a mouth or smile shape. Next we just add a few pieces to fill the gaps at the sides and it's all done.

It may just be a smiley face candy or it might be used as a centre design with letters above and / or below.

THANK YOU

HAPPY FACE DESIGN



THE OUTSIDE COLOUR IS USUALLY BETWEEN 30-40% OF TOTAL CANDY...

THE EYES & MOUTH ARE AROUND 10% AND ALL ELSE IS WHITE...

1

HAPPY FACE DESIGN

① MAKE EYES

(i) ROLL BLACK

(ii) WRAP IN WHITE

(iii) STRETCH & CUT IN ½

2

HAPPY FACE DESIGN

② PUT EYES TOGETHER...

TRIANGLE INTO TOP

3

4

HAPPY FACE DESIGN

MAKE MOUTH...

(i) FLAT BLACK

(ii) WHITE

(iii) STICK TOGETHER (KEEP IT ROLLING!!)

5

HAPPY FACE DESIGN

NEXT... PUT TOGETHER! & FILL GAPS IF NEEDED

NEXT... WRAP WITH WHITE...

6

HAPPY FACE DESIGN

NEXT... WRAP WITH COLOUR AND ROLL UNTIL CASING IS SMOOTH... THEN STRETCH OUT INTO RODS, ROLL & CUT...

REMEMBER TO KEEP ROLLING THE MOUTH WHEN YOU MAKE IT, OR THE SMILE WILL BE FLAT!!

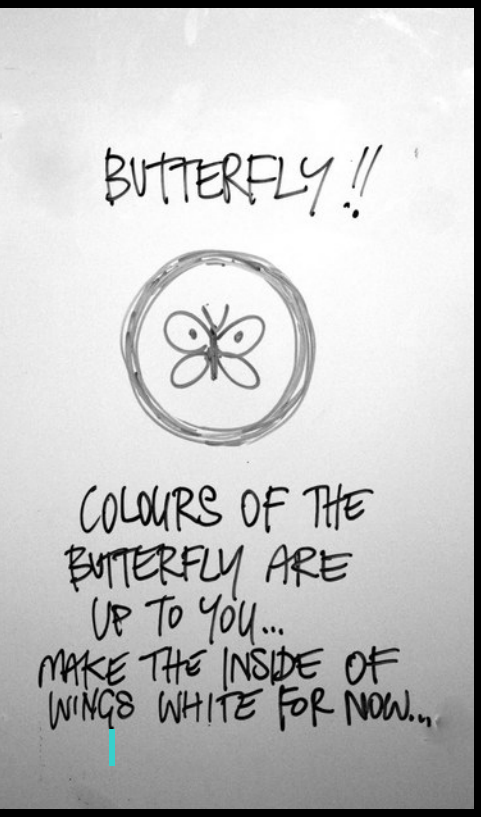
Alien smiley face candy

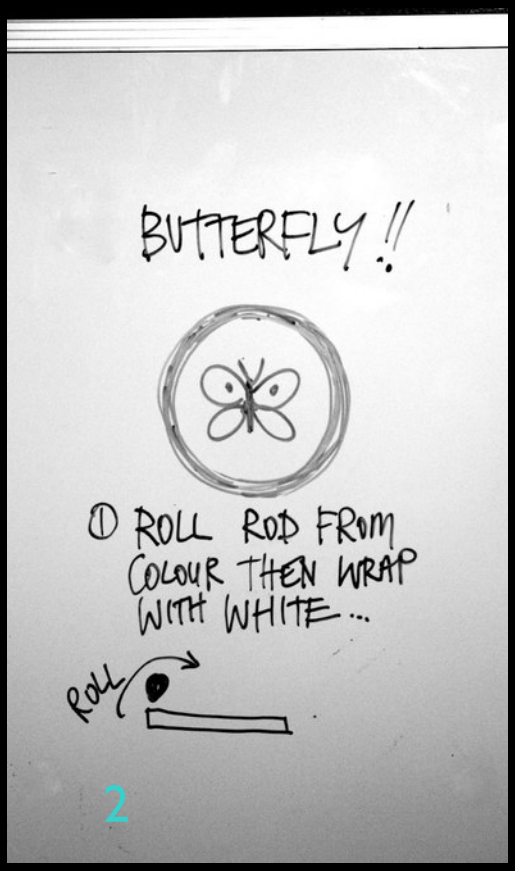
Halloween pumpkins

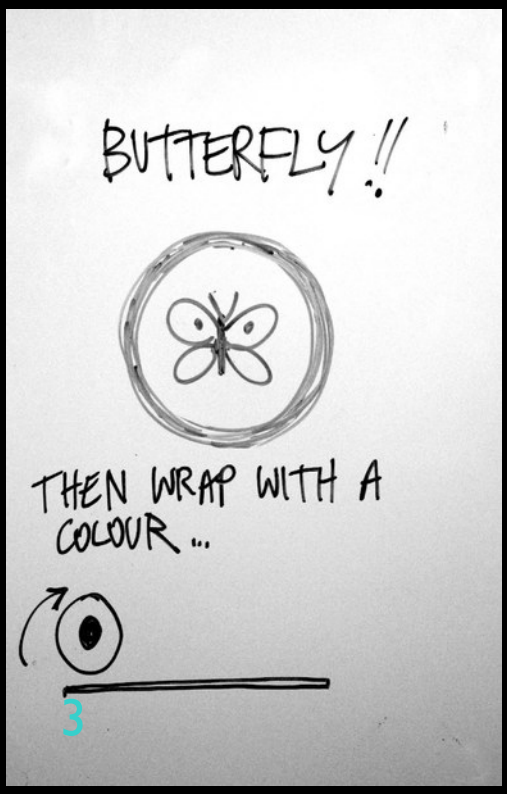
EAT ME candy with sharp teeth!
A popular fun design.

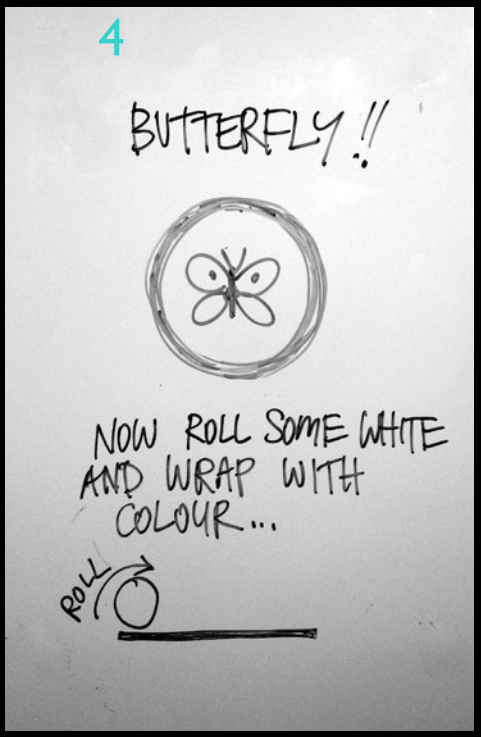
butterfly rock

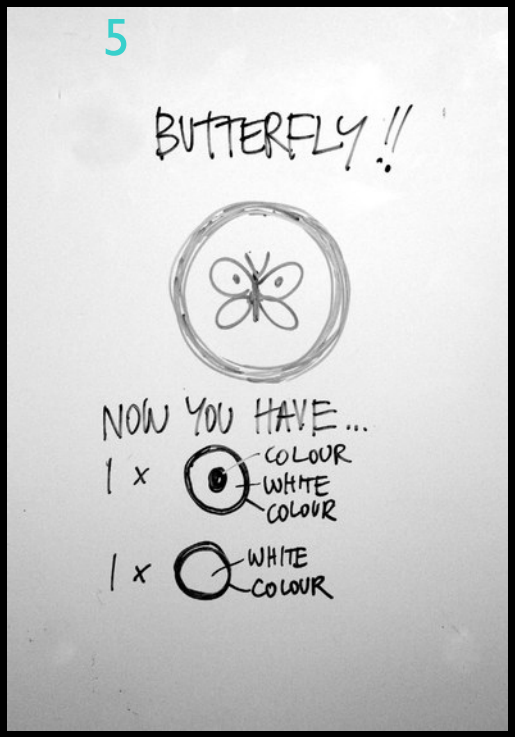
Making the wing for the butterfly candy (picture on right).
The wing is stretched out, cut or folded into two - one for each side of the body.

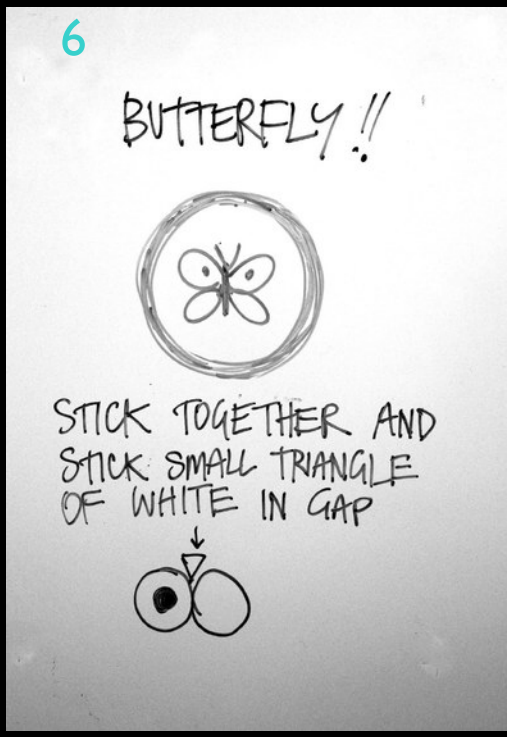












The BUTTERFLY candy design as written on the whiteboard in a candy making training course. The circle with butterfly design drawn at the top of the board is the same size as the candy before being stretched out and rolled / cooled. See pages 100-101.

7

BUTTERFLY !!

TURN OVER AND PUSH THE EDGE SO IT IS ..LIKE THIS

8

BUTTERFLY !!

ADD WHITE TRIANGLE ALONG THE FLAT PART..

9

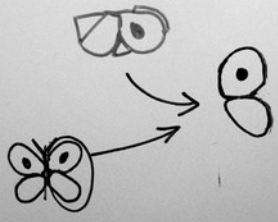
BUTTERFLY !!

ADD A THIN WHITE PIECE ON OTHER EDGE

10

BUTTERFLY !!

NOW YOU HAVE MADE 1 WING !!



11

BUTTERFLY !!

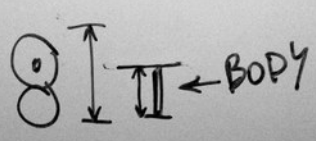
NOW, STRETCH OUT THE WING TO 50cm AND CUT IN HALF.. NOW YOU HAVE 2 WINGS !!

REMEMBER WHICH PART IS THE TOP !!

12

BUTTERFLY !!

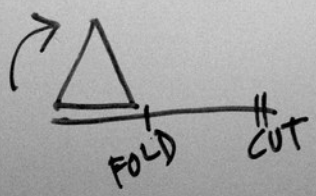
MAKE A THIN FLAT PIECE OF COLOUR.. ABOUT ½ HEIGHT OF WINGS, BUT SAME LENGTH ...25cm



BUTTERFLY !!

MAKE A TRIANGLE OF WHITE...

MAKE THIN FLAT COLOUR.. STICK ON TRIANGLE...



13

BUTTERFLY !!

NOW, YOU HAVE...

WINGS

BODY |

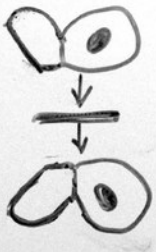
ANTENAE

14

15

BUTTERFLY !!

PUT TOGETHER..



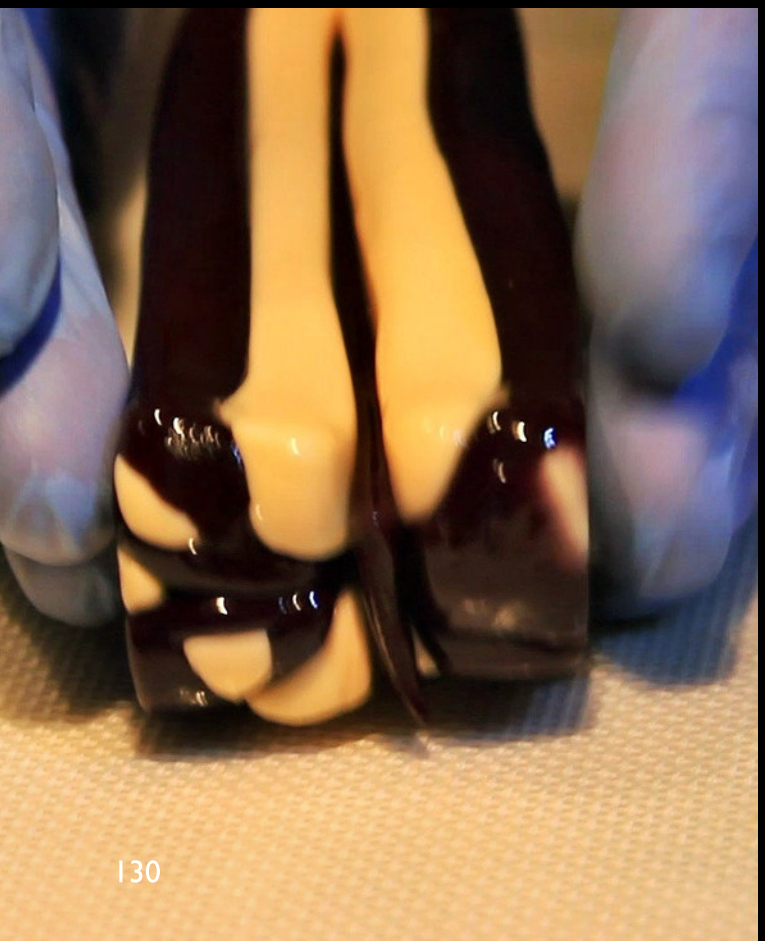
STICK ON ANTENAE

16

BUTTERFLY !!

FILL ANY GAPS

THEN WRAP WITH WHITE (STRETCHED) AND WRAP WITH COLOUR... ROLL, STRETCH, CUT... etc...



The butterfly design is based on the wing being made once, then folded or cut into 2 wings and stuck on each side of a thin body then adding the antennae 'V' shape to sit on the body, between the wings. White is added to the sides of the butterfly to make it more of a cylinder shape and separate from the letters or outside colour wrap / casing.

KAREN
STEVE
KAREN
STEVE

The dragonfly design (above) is based on the butterfly plan - one wing is made then stretched to about 40 - 50cm and cut into two wings before being stuck on each side of a body.
For this dragonfly the tail was made from green circles, the body was clear red wrapped around clear yellow, made into an 'O' and flattened a bit, and the eyes were one green letter 'O' stretched out, cut into about 8, stuck together to make one eye, then cut into two eyes.
Always look for the repetitions in your designs to help save time on the hot table.

Above - hungry catterpillar becomes a butterfly!!

Left - spiders are easy to make when you see the repetition in the legs - same as the wings of the butterfly- make one and then stretch and cut into 2 - one set of legs for each side. This method means they are usually the same size. This will save time especially on the complicated designs.

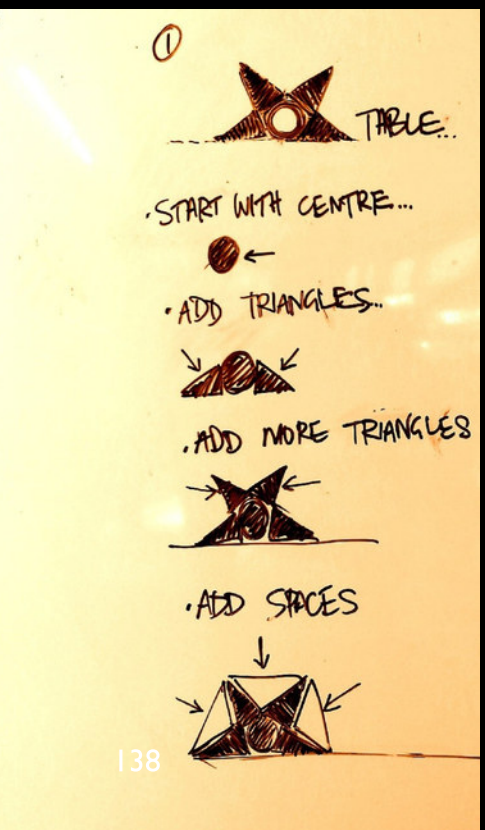
Making leaves...

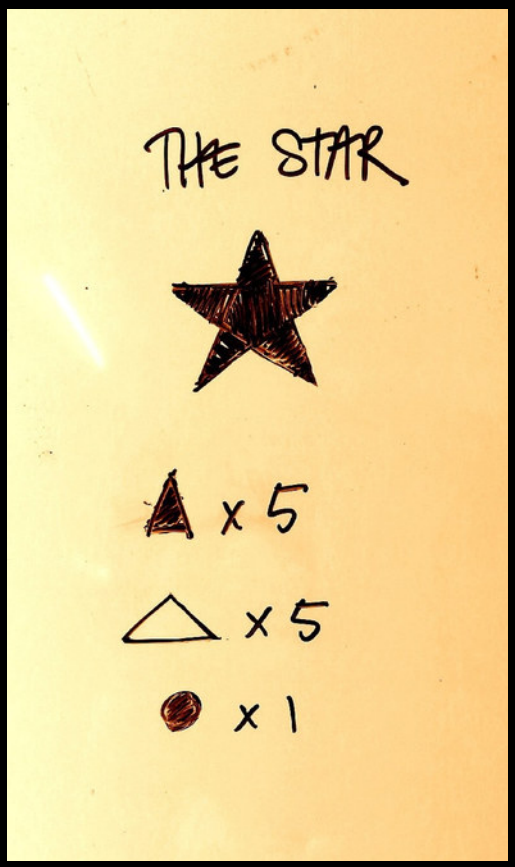
Making leaves is very similar to the butterfly design. We make one half of a leaf like we make one butterfly wing, then stretch it to be longer and cut into two. We now have one for each side of the butterfly body or in this case, the leaf stem.
In the picture left we can see a rainbow leaf held up against the light. Below picture - Canadian flag candy made for Canada Day. This design is another leaf that is made in one half, then stretched and cut into two before being stuck together on each side of a stem. Same concept as the butterfly candy.

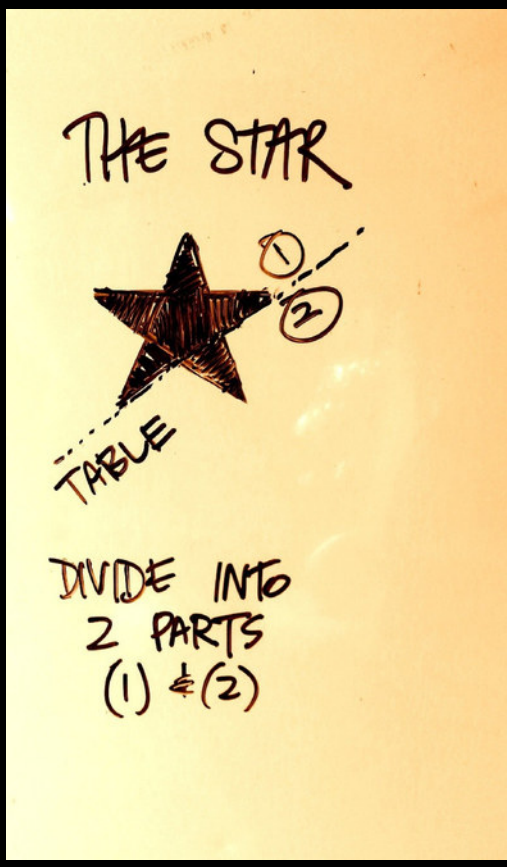
the star

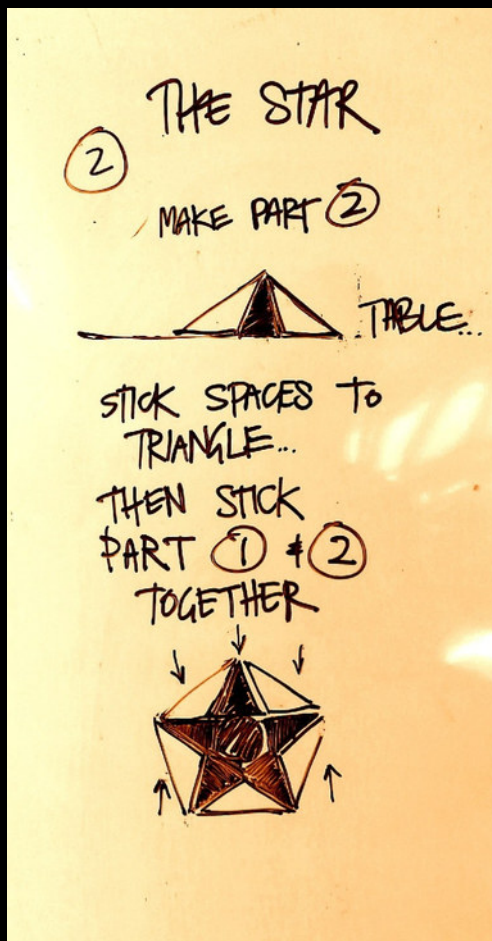
CANDYSMITH

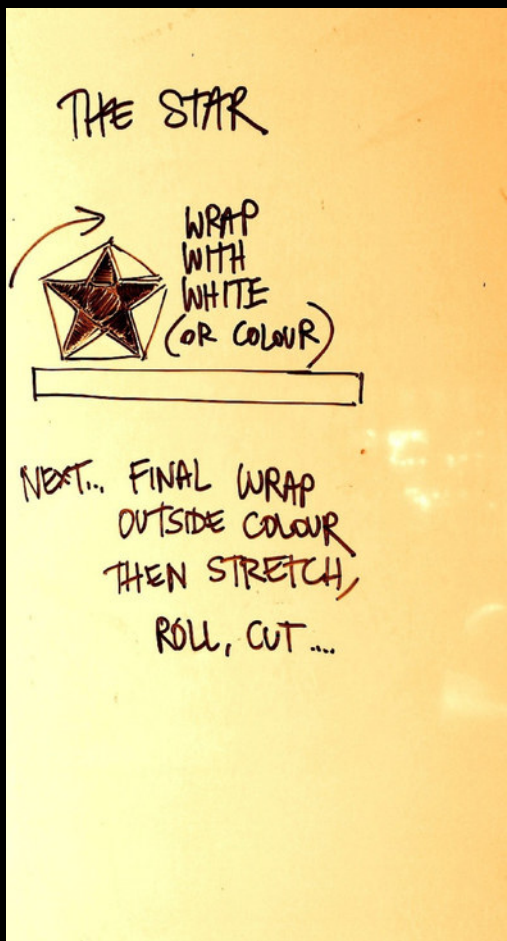
The star is made in 2 pieces. We use the flat surface of the table to build each 'half' of the star.
This is a technique that can be used in many pictures and logos.
When making the plans or thinking about how to make a tricky design, it will help to look for a flat part... maybe it requires building the candy picture upside-down, or in 2 or 3 or more sections, each with the flat part on the table then stuck together.
The 5 triangles for the star shape and the centre circle shape can be cooled on the rolling table for 30 seconds or 1 minute so they are slightly harder than the white space / fill triangles.
If the tips of the triangles are sticking out a little from the white shapes, they can become rounded off and the star can look a bit like a flower or a starfish, so try to make the white triangle spaces a little bigger so they touch and enclose the tips of the star.

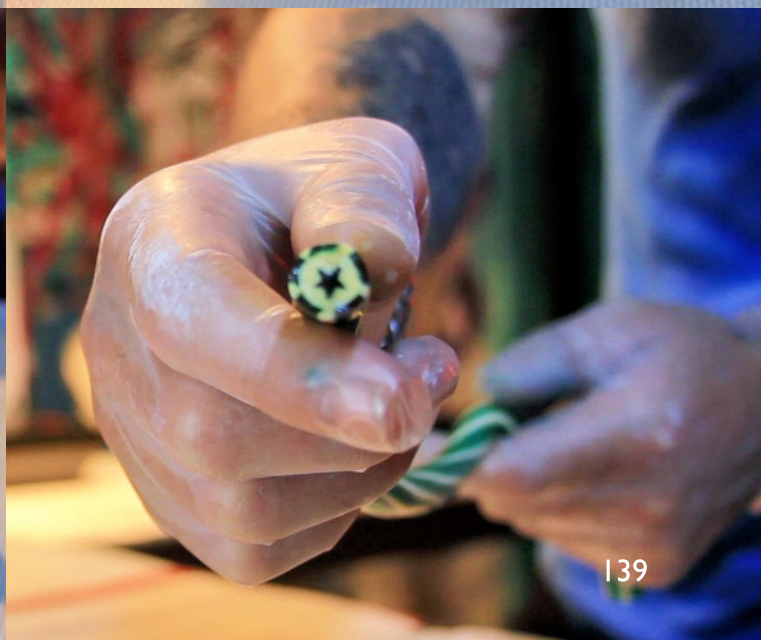




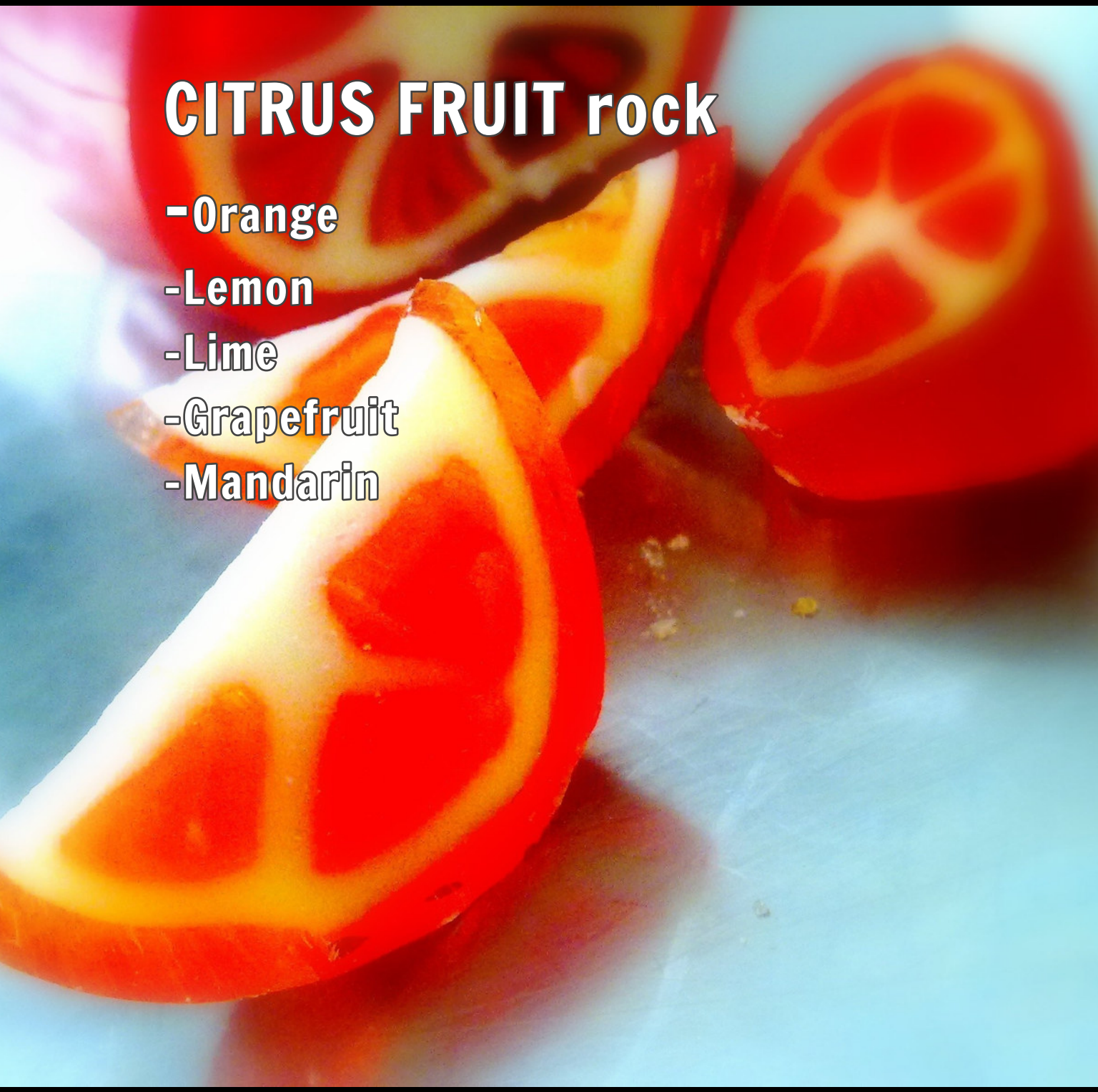


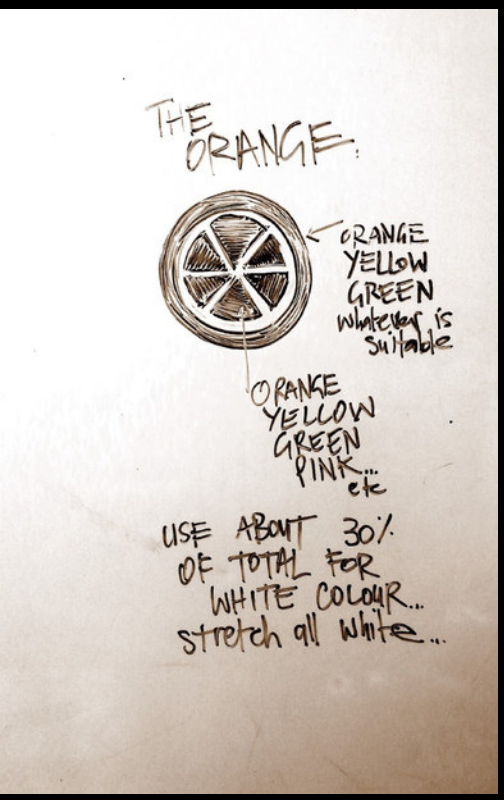


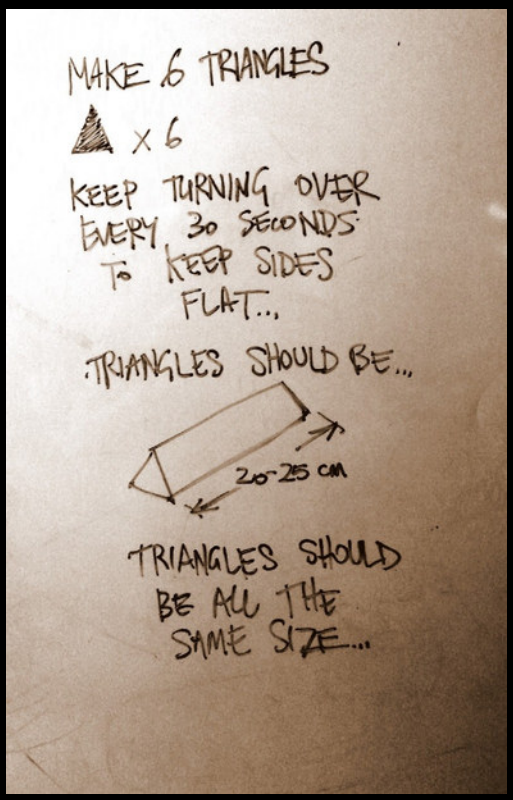


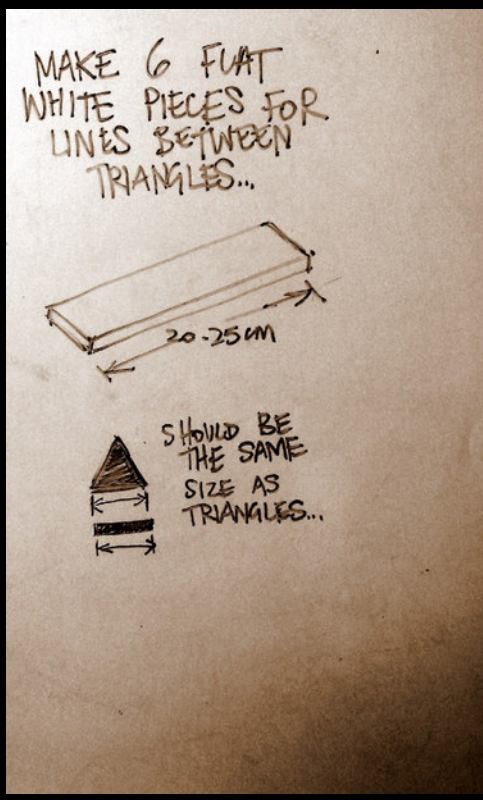


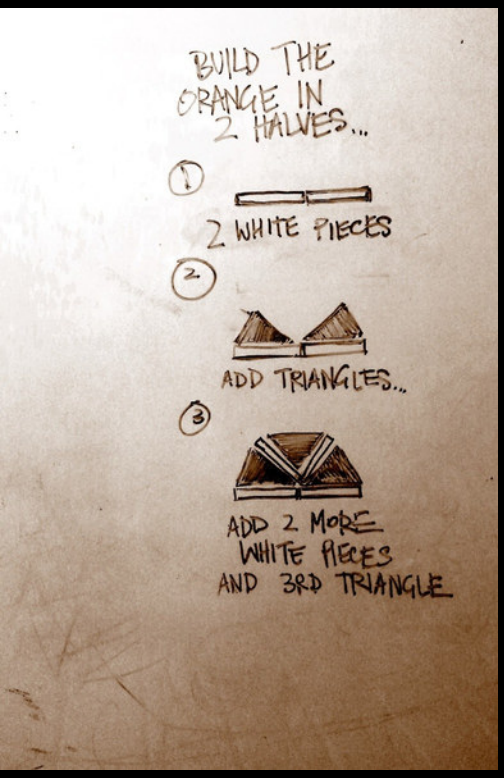
Using the star shaping tool I made to form the triangle shapes we need for the star candy. The shaping tool is hand-forged from stainless steel - a very useful tool! The big triangle shape forms the triangle for the outside colour, and the small triangle forms the triangle shapes needed for the star... 36 degrees and 108 degrees... Check out pentagram geometry online for more information about the angles of a 5-pointed star.

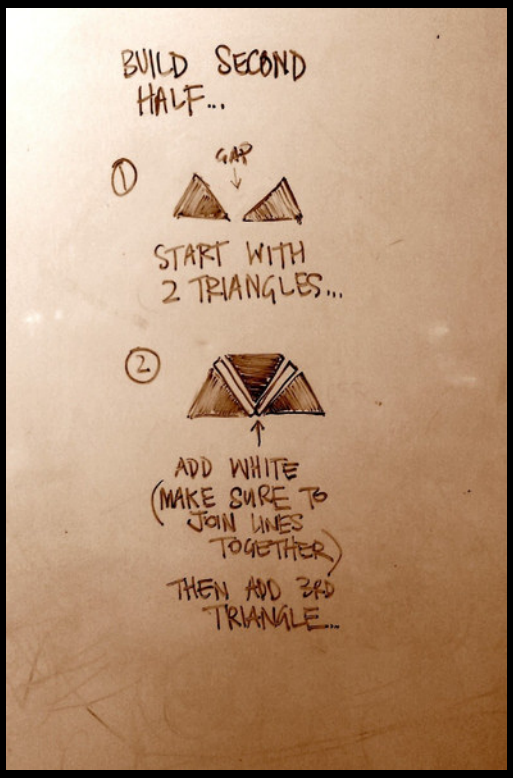

CITRUS FRUIT rock
-Orange
-Lemon
-Lime
-Grapefruit
-Mandarin



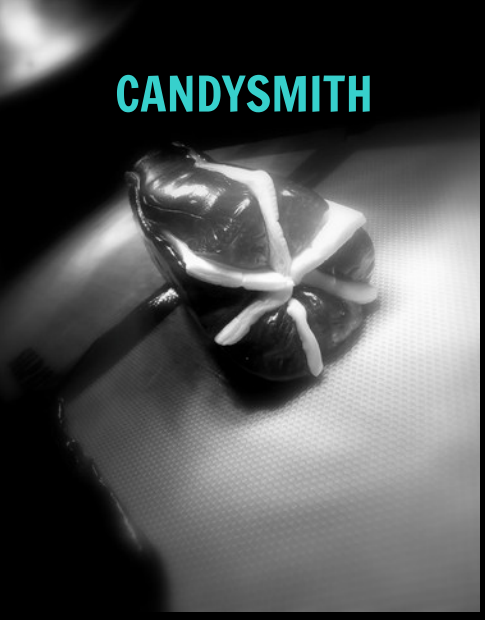

MAKE 6 TRIANGLES
x 6
KEEP TURNING OVER EVERY 30 SECONDS TO KEEP SIDES FLAT...
TRIANGLES SHOULD BE...
20-25 cm
TRIANGLES SHOULD BE ALL THE SAME SIZE...







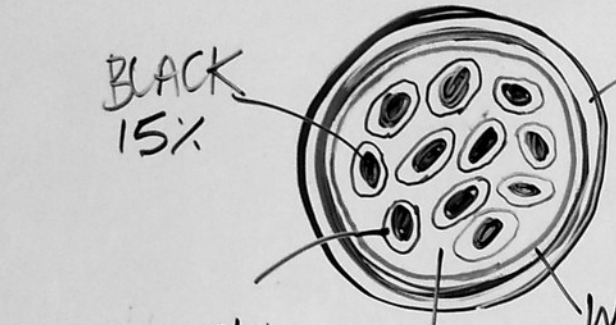
The plans for the citrus rocks are the same, just change the colours, flavours and how many segments you make!



Variations of the citrus rock include:
Lemon
Orange
Lime
Grapefruit
Pink Grapefruit
Blood Orange
Tangerine
Mandarin

PASSIONFRUIT rock

Lilikoi candy made during an Hawaiian training course has a yellow skin!
The fruit is known as passionfruit in Australia where it has a purple skin. We make the inside design the same and change the outside colour depending on which variety we are making.



BLACK 15%

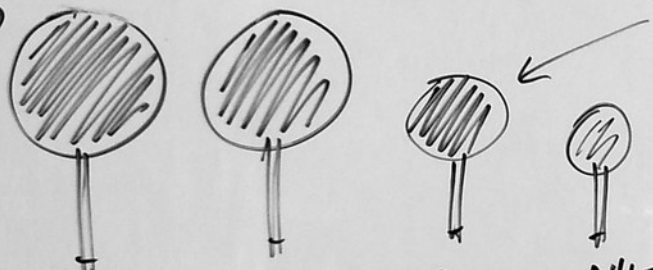
CASING YELLOW OR PURPLE 30%

WHITE 10%

YELLOW (STRETCHED) 20-25%

YELLOW (CLEAR) 20-25%

PANS



THIS WILL BE BLACK COLOUR FOR SEEDS..

YELLOW OR PURPLE 30%

YELLOW 45%

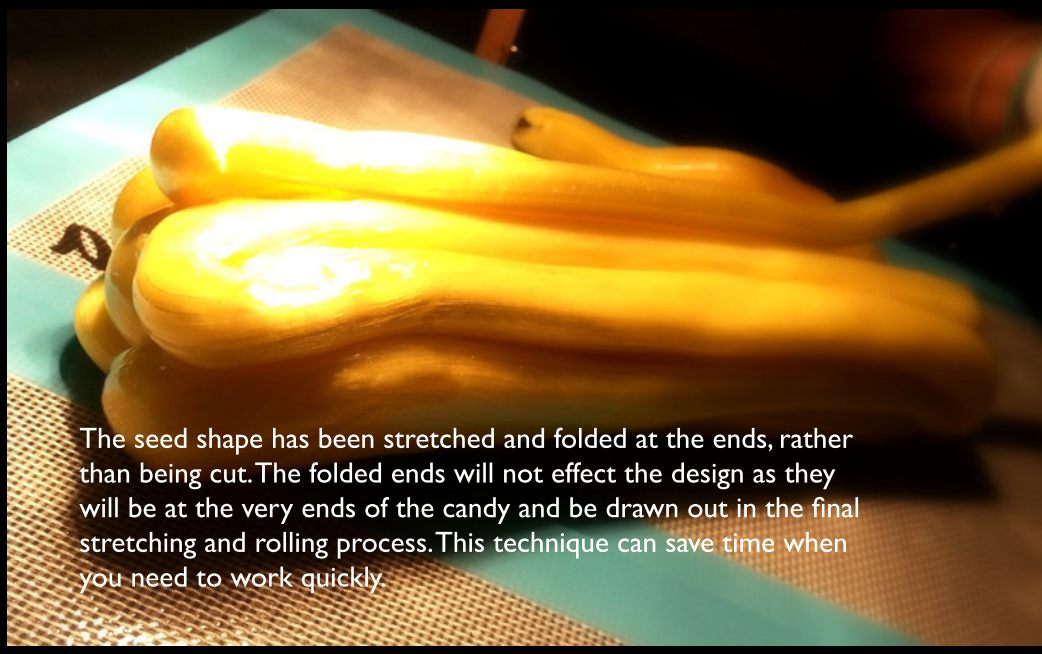
BLACK 15%

WHITE 10%

STRETCH ALL WHITE..

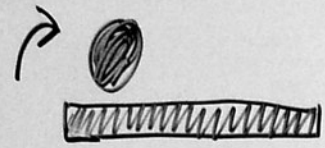
THIS IS THE COLOUR FOR THE CASING..

THIS IS THE YELLOW FOR THE INSIDE.. HALF OF IT IS STRETCHED

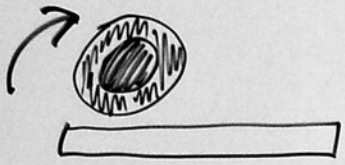


The seed shape has been stretched and folded at the ends, rather than being cut. The folded ends will not effect the design as they will be at the very ends of the candy and be drawn out in the final stretching and rolling process. This technique can save time when you need to work quickly.

- PUT ASIDE YELLOW OR PURPLE FOR CASING.
- STRETCH HALF OF YELLOW AND FLATTEN INTO A4 SIZED RECTANGLE SHAPE
- ROLL ALL OF BLACK INTO 25cm LONG CYLINDER

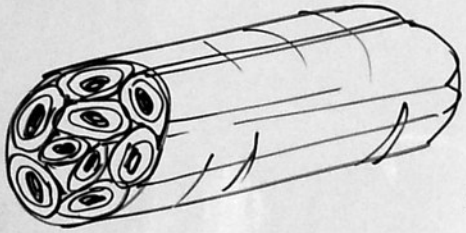


WRAP BLACK 'SEED' WITH STRETCHED YELLOW



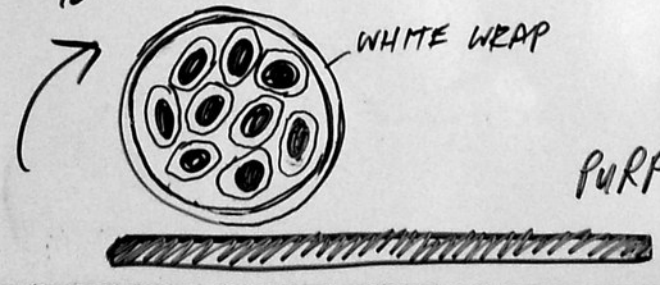
THEN WRAP WITH CLEAR (UNSTRETCHED) YELLOW

STRETCH OUT & CUT INTO 9 (OR MORE) PIECES AND STICK TOGETHER TO FORM CYLINDER



ROLL THIS SO IT STAYS ROUND, DONT LET IT GO FLAT...

WRAP WITH FLAT STRETCHED WHITE, THEN YELLOW OR PURPLE CASING... STRETCH, ROLL, CUT...



Watermelon rock!

Watermelon rock!

Now you have seen how the passionfruit candy is made you will clearly see how to make the watermelon candy.

A black seed is made around 30cm long then wrapped in pink that has been pulled over the hook, making the pink a lighter opaque colour and a crunchy texture.

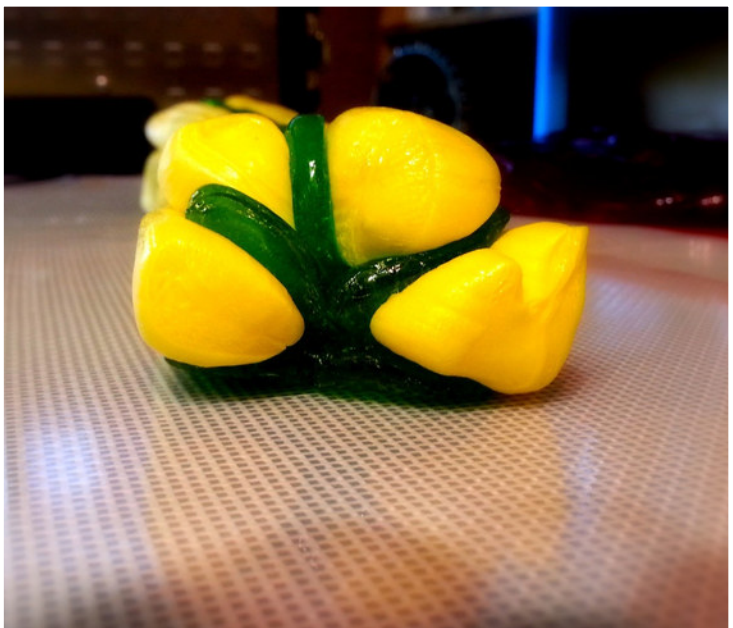
The wrapped seed is then stretched out to make it longer and cut into multiple seeds, such as 9 or 10 seeds. They are stuck together in a random way so as not to make a pattern. Just like the seeds in the passionfruit candy.

This is rolled to make it round, before being wrapped in white and then a casing / wrap of clear green.

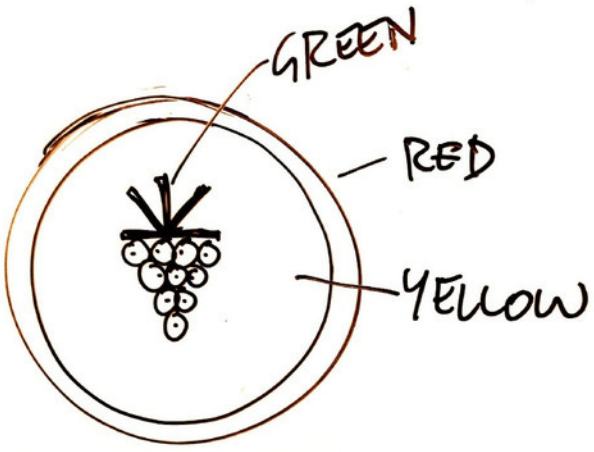
The green wrap sometimes has stripes made of pulled green, to look like the classic watermelon stripey skin.

Here we have made the candy into a square shape for some fun pictures of Japanese style square watermelons growing in wooden boxes!

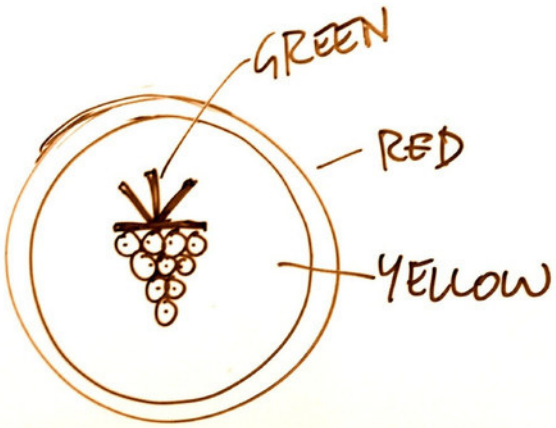
STRAWBERRY rock

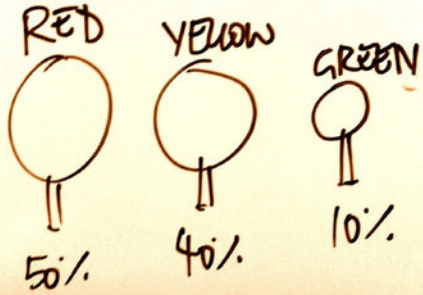


Pictures, right - The step by step plans for the strawberry candy as they were drawn on the kitchen whiteboard for an on-location hard candy making training course.



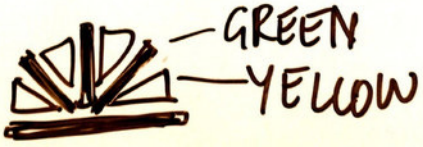
STRAWBERRY 2kg.

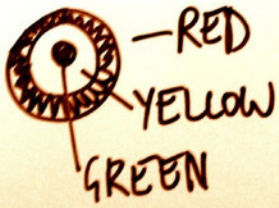




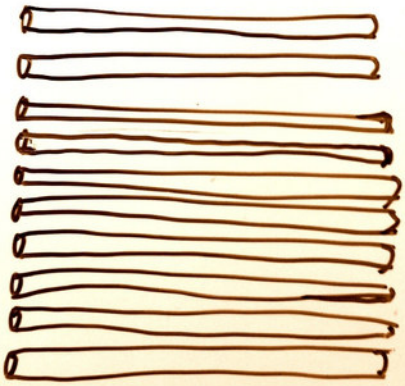
① STRETCH YELLOW

② MAKE TOP





(5) STRETCH AND CUT INTO 10



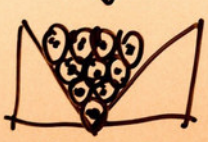
(6) BUILD INTO TRIANGLE ~~SHAPE~~.
4, 3, 2, 1

(7) MAKE TRIANGLES FROM YELLOW

(SAME AS LOVE HEART)

PUT STRAWBERRY IN...

↓



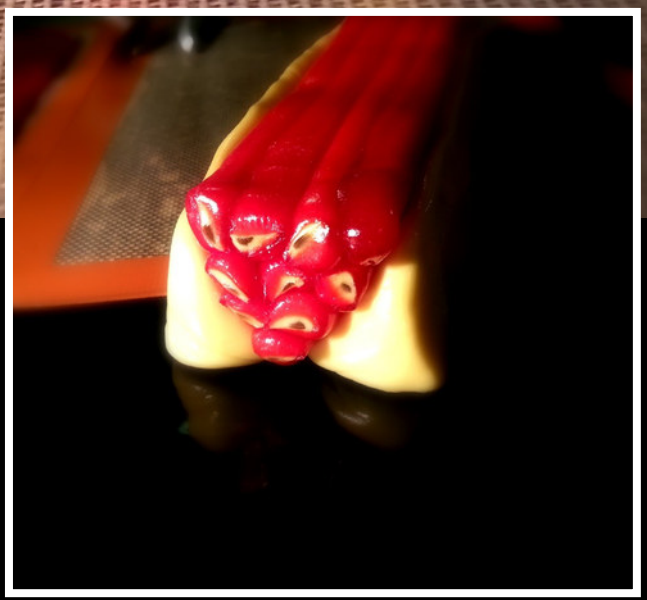
(8) STICK ON TOP

(9) ROLL, FILL GAPS OR WRAP WITH YELLOW...

(10) WRAP WITH RED

(11) STRETCH & CUT .!!

Attaching the leaves to the strawberry shape.

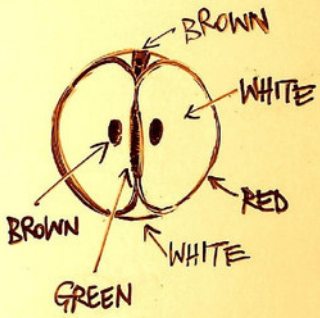


Strawberry rock made in training course in Novosibirsk, Siberia.

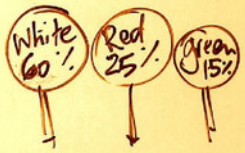
APPLE rock

Apple rock made in Riyadh, Saudi Arabia while training the candy team for the new biggest candy shop in UAE.

THE APPLE



PANS...



1

THE APPLE

MIX SMALL PIECE OF GREEN & SMALL PIECE OF RED TO MAKE BROWN FOR STEM & SEEDS...

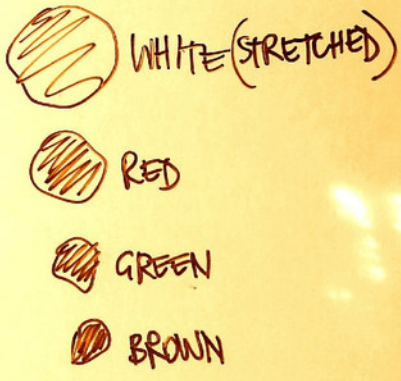
BY FOLDING & STRETCHING TOGETHER...

2

THE APPLE

NEXT.. STRETCH ALL THE WHITE...

NOW YOU HAVE...



3

4

THE APPLE

1. MAKE ONE SEED...

USE 60% OF THE BROWN

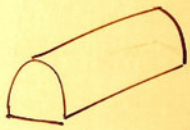
2.

WRAP WITH THIN PIECE OF WHITE

3. CUT SMALL PIECE OF WHITE & PUT ASIDE... THEN ROLL REMAINDER (ABOUT 25cm LONG)

5

THE APPLE

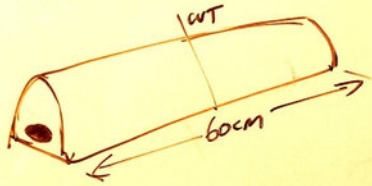


STOP ROLLING THE WHITE & LET IT SIT FOR A MINUTE SO IT GOES A BIT FLAT THEN PUSH SEED INTO FLAT PART....

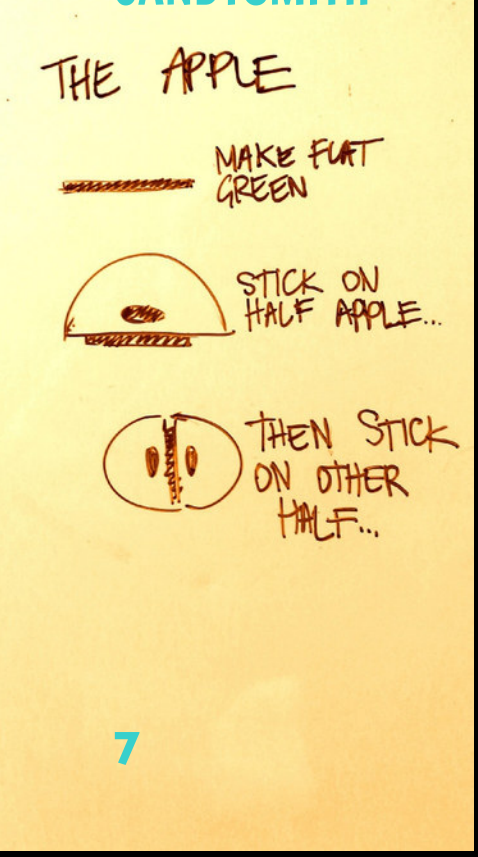
6

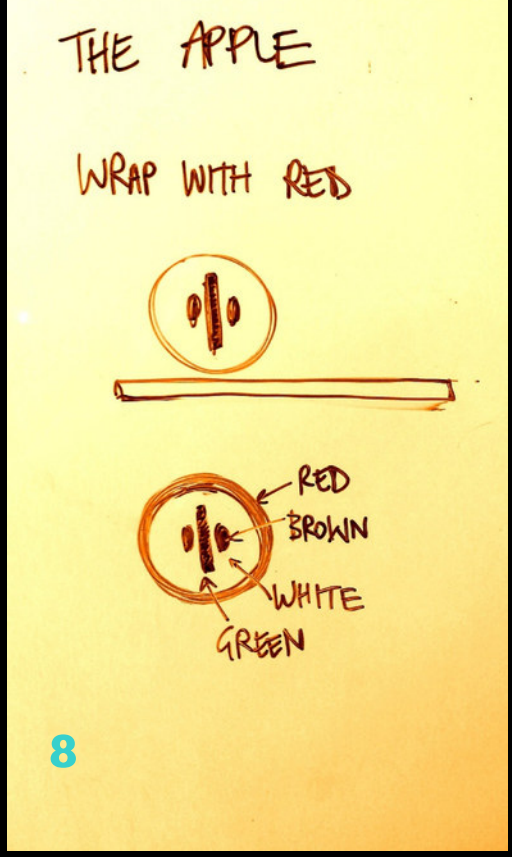
THE APPLE

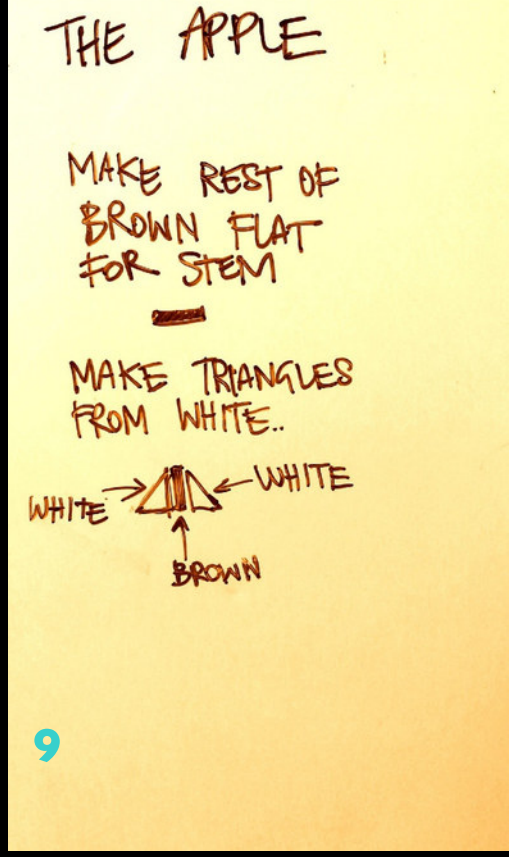
STRETCH & CUT INTO 2

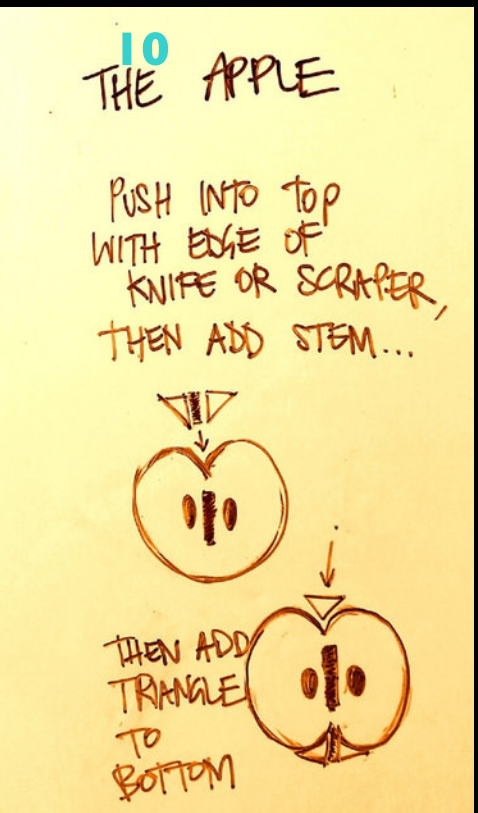


NOW YOU HAVE 2 SIDES OF APPLE...



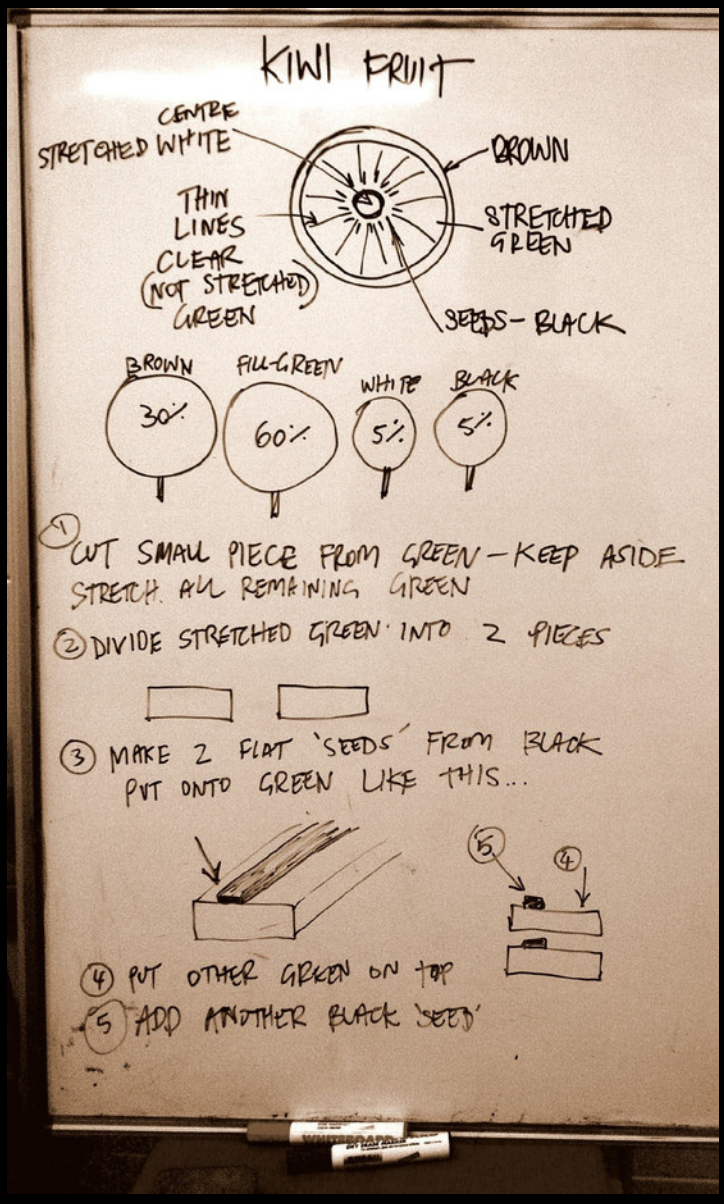


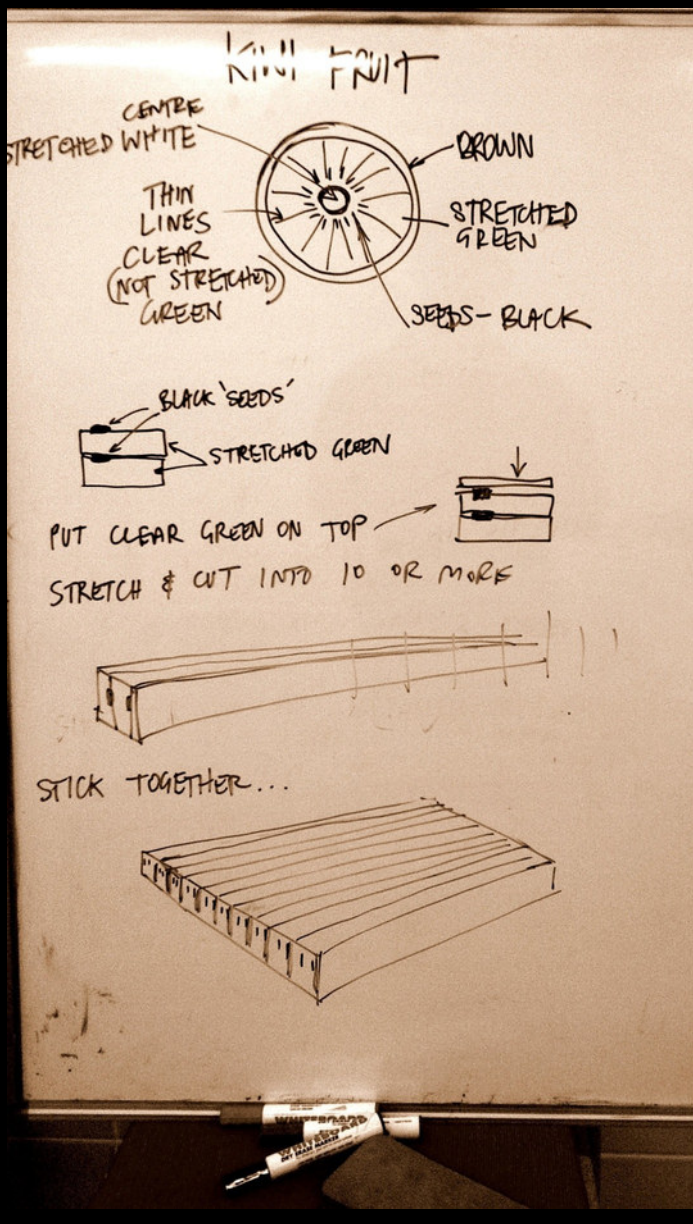




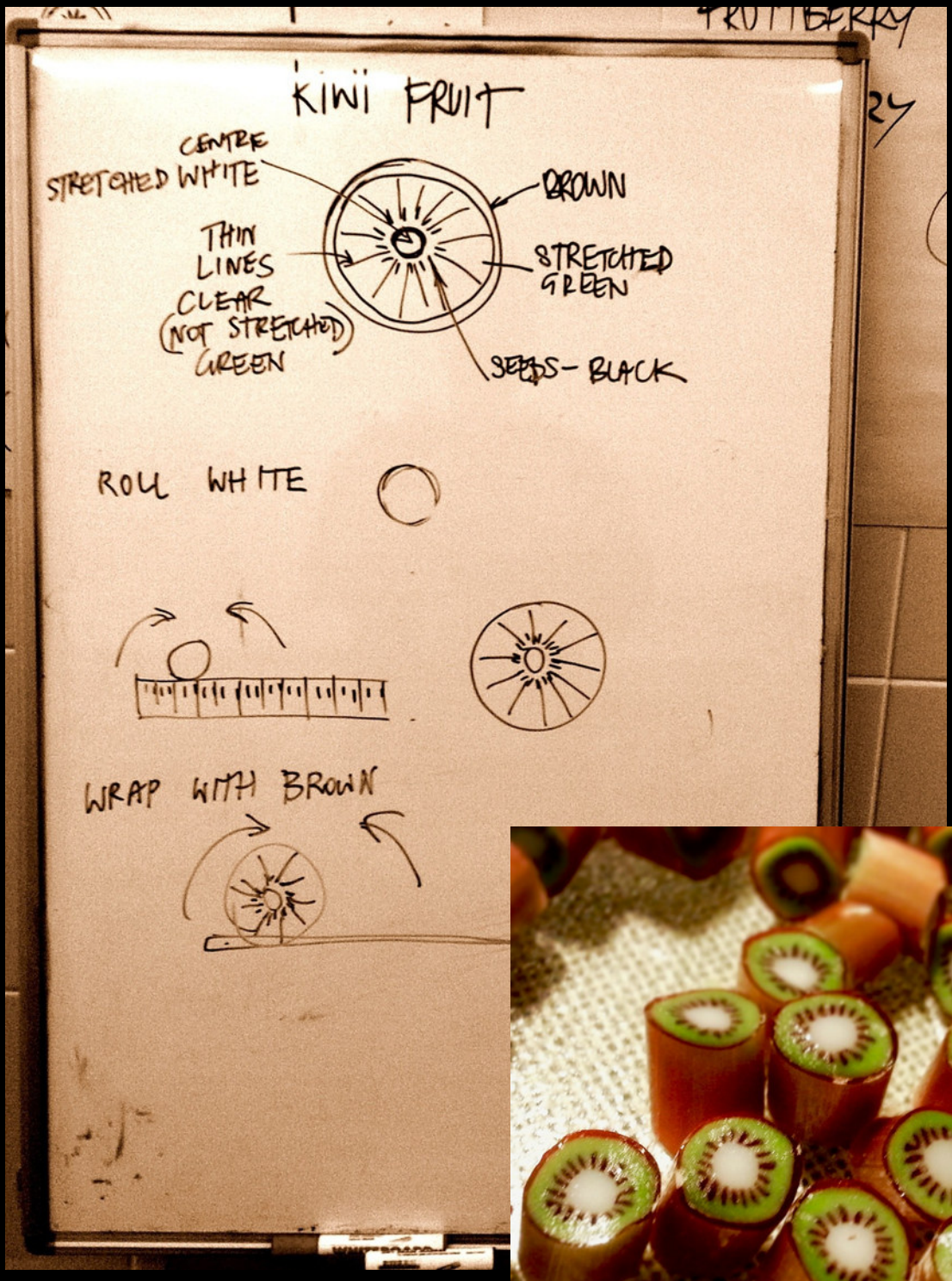
To make the brown colour for the stem, mix some green and red together, but remember! - the more the candy is kneaded to mix the colour in, the more air will also be folded in, so the colour can be made clear or opaque depending on your design.

KIWIFRUIT rock

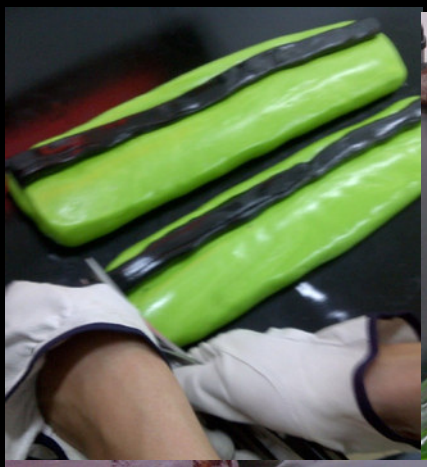


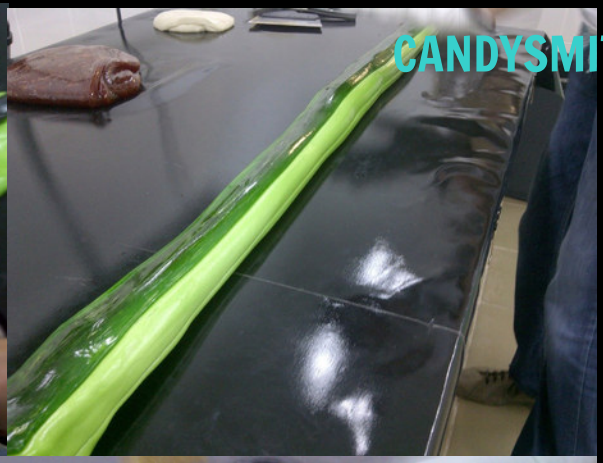


Kiwifruit rock plans as drawn on the kitchen whiteboard for a hard candy training course.



Plans from the kitchen whiteboard.

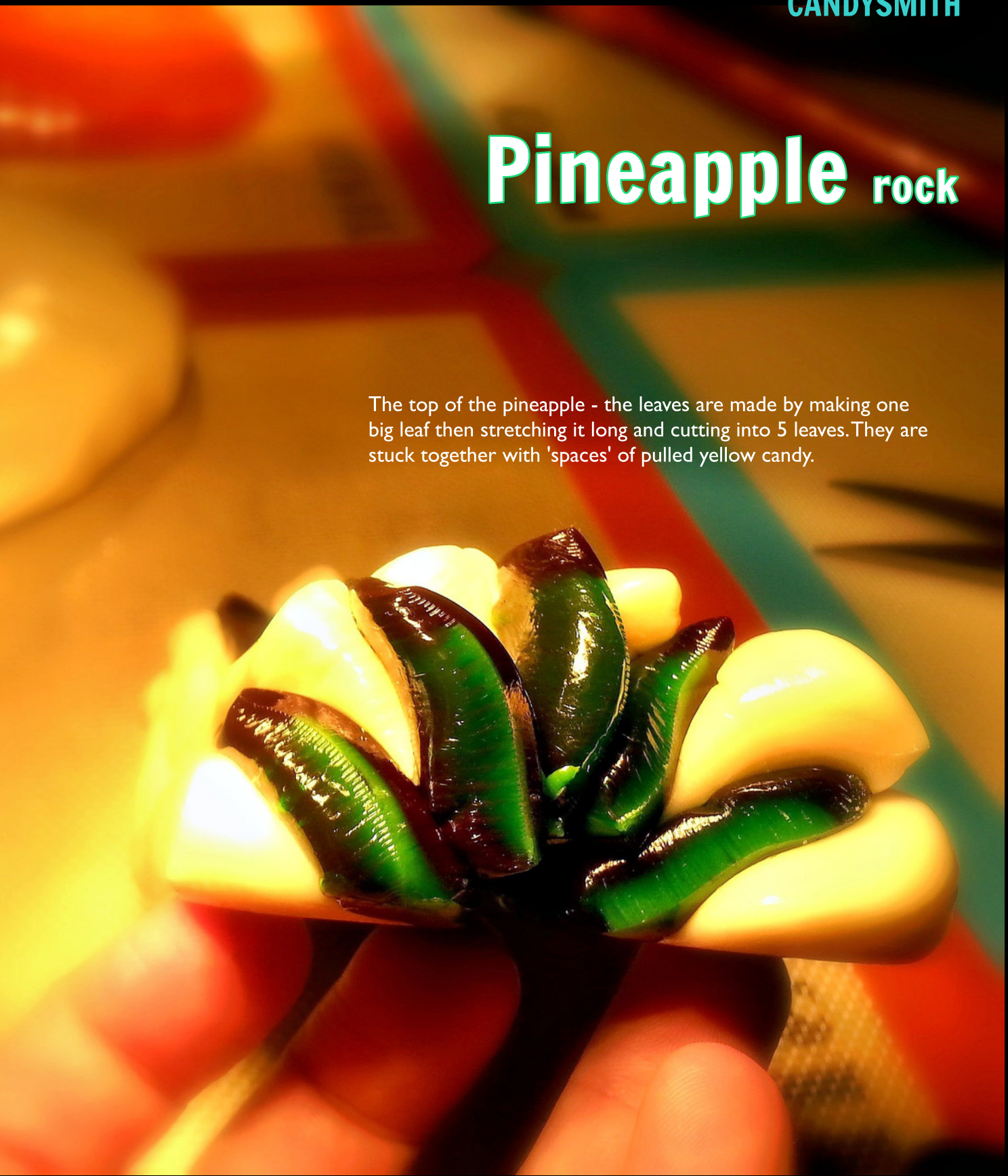


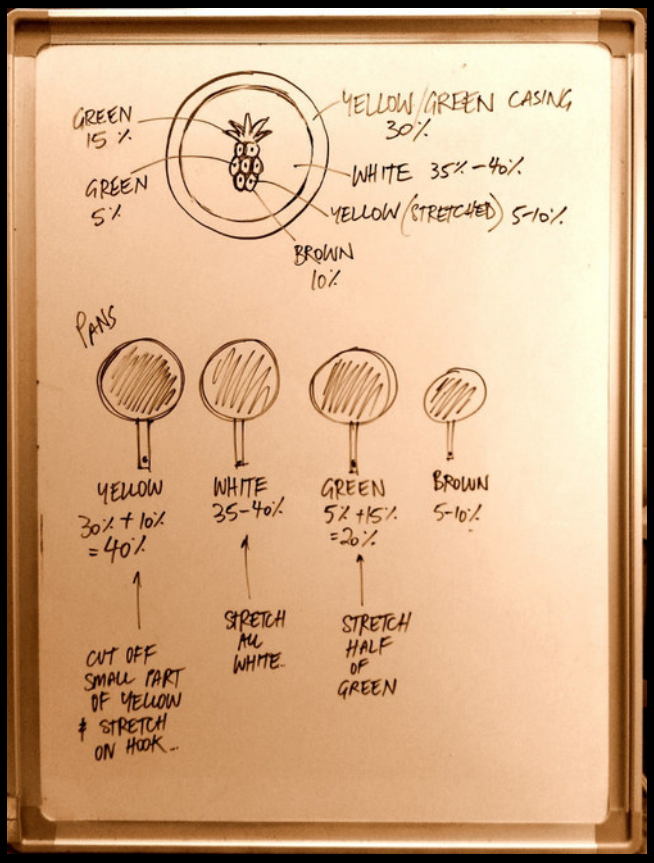


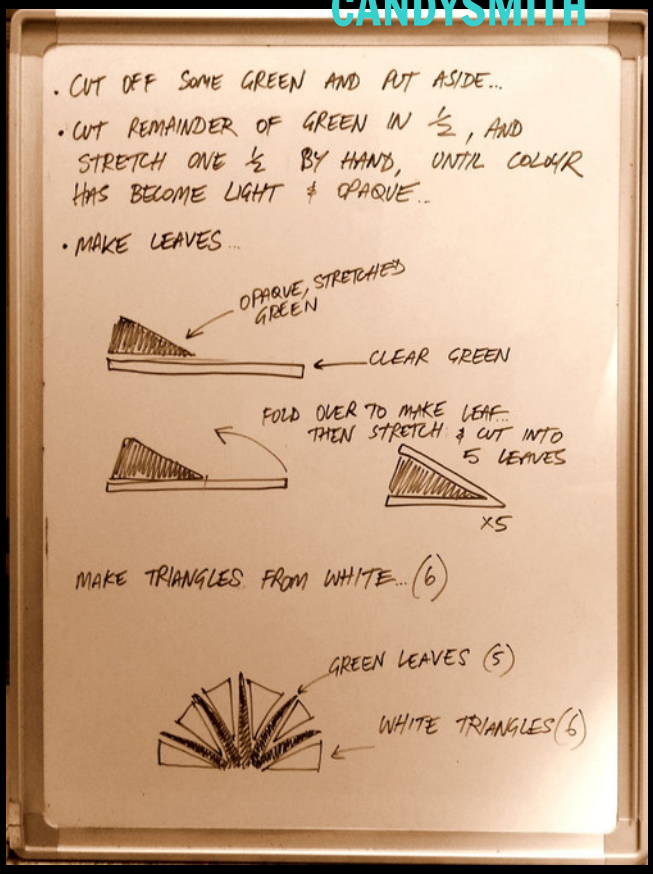
Pineapple candy made in Hawaii. We also added a spicy, salty powder known as 'li hing mui' to the yellow / green coloured candy used for the wrap / casing. This added a wonderful salty tang to the pineapple to give it a special touch that was appealing to the local palate. The spicy powder can be seen in the yellow / green casing. The powder is added to the hot sugar after the colours and acid are mixed in.

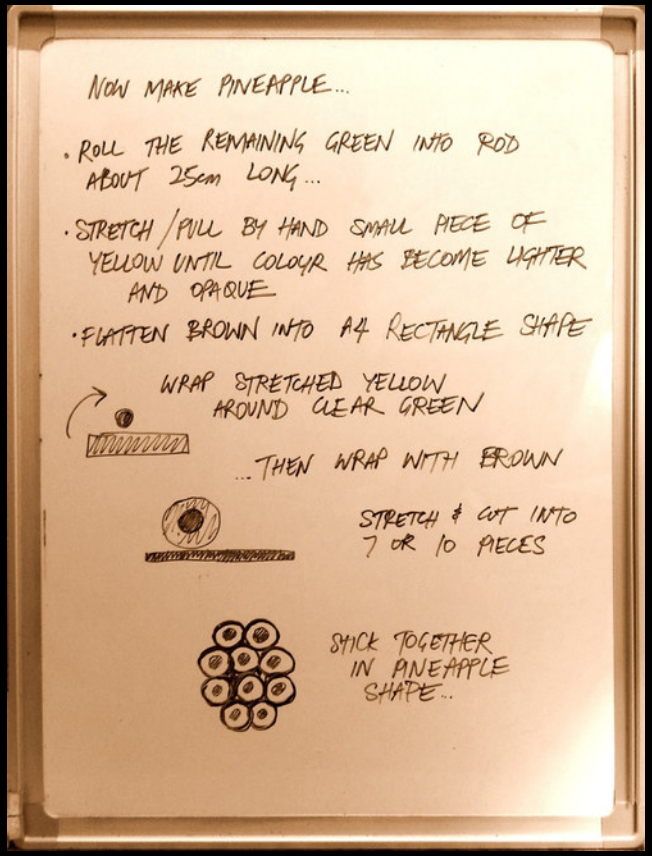
Pineapple rock

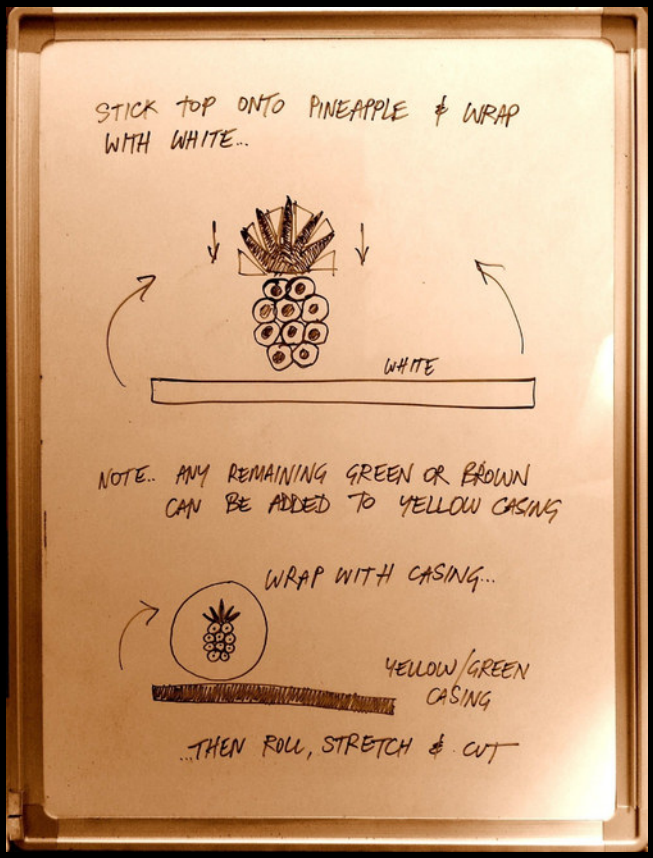
The top of the pineapple - the leaves are made by making one big leaf then stretching it long and cutting into 5 leaves. They are stuck together with 'spaces' of pulled yellow candy.

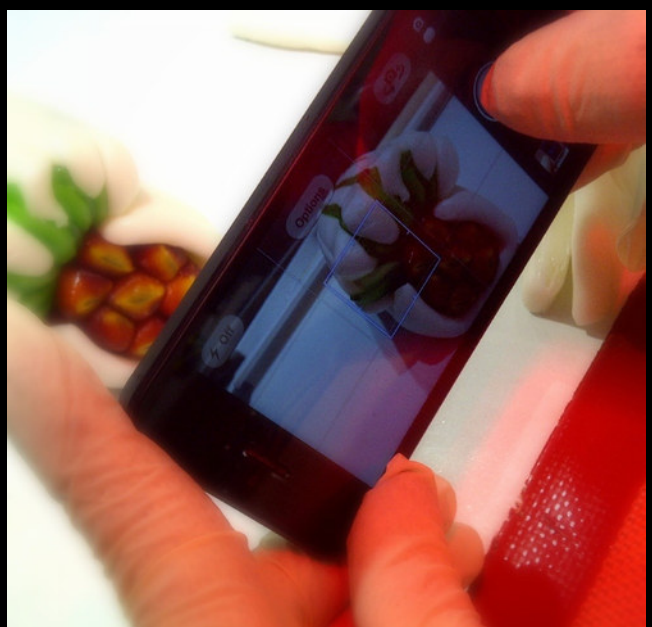



GREEN 15%
GREEN 5%
YELLOW/GREEN CASING 30%
WHITE 35%-40%
YELLOW (STRETCHED) 5-10%
BROWN 10%
PANS
YELLOW 30% + 10% = 40%
WHITE 35-40%
GREEN 5% + 15% = 20%
BROWN 5-10%
CUT OFF SMALL PART OF YELLOW & STRETCH ON HOOK..
STRETCH ALL WHITE..
STRETCH HALF OF GREEN


• CUT OFF SOME GREEN AND PUT ASIDE..
• CUT REMAINDER OF GREEN IN ½, AND STRETCH ONE ½ BY HAND, UNTIL COLOUR HAS BECOME LIGHT & OPAQUE..
• MAKE LEAVES..
OPAQUE, STRETCHED GREEN
CLEAR GREEN
FOLD OVER TO MAKE LEAF... THEN STRETCH & CUT INTO 5 LEAVES
X5
MAKE TRIANGLES FROM WHITE... (6)
GREEN LEAVES (5)
WHITE TRIANGLES (6)


NOW MAKE PINEAPPLE...
• ROLL THE REMAINING GREEN INTO ROD ABOUT 25cm LONG...
• STRETCH/PULL BY HAND SMALL PIECE OF YELLOW UNTIL COLOUR HAS BECOME LIGHTER AND OPAQUE
• FLATTEN BROWN INTO A4 RECTANGLE SHAPE
WRAP STRETCHED YELLOW AROUND CLEAR GREEN
...THEN WRAP WITH BROWN
STRETCH & CUT INTO 7 OR 10 PIECES
STICK TOGETHER IN PINEAPPLE SHAPE..


STICK TOP ONTO PINEAPPLE & WRAP WITH WHITE..
WHITE
NOTE.. ANY REMAINING GREEN OR BROWN CAN BE ADDED TO YELLOW CASING
WRAP WITH CASING...
YELLOW/GREEN CASING
...THEN ROLL, STRETCH & CUT



Pineapple rock with outside casing on, ready to stretch and roll.

The outside casing has the offcuts from the other shapes added to it, which become mixed shades of colour, so there is no waste. This also gives the outside colour a nice gradient that is appealing.

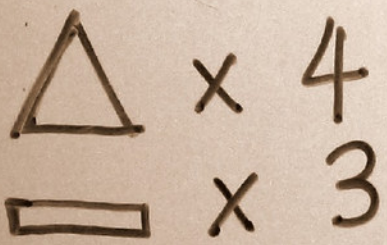
snowflake rock

The starting triangle can be made in many ways, and in many colour combinations. Here the blue was unstretched (clear) so the light would shine through the finished candy. The candy on both pages here is the same candy, lit from behind (p.174) and from the front (above).

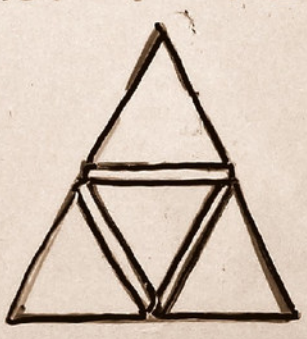
CANDYSMITH

SNOWFLAKE ROCK

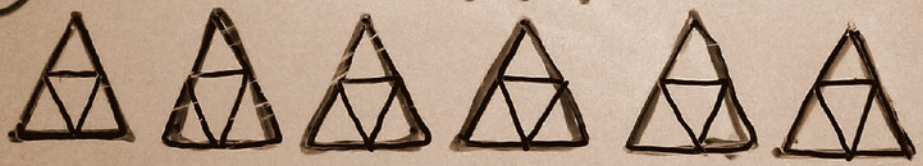
① MAKE...



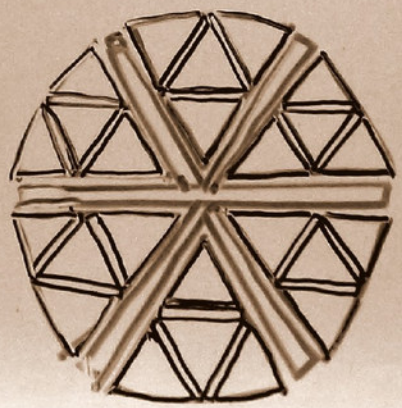
② THEN MAKE...



③ STRETCH & CUT INTO 6...



④ NOW USE ORANGE/LEMON DESIGN PLAN TO FINISH...



Making the snowflake is the same as the citrus rocks. However, for the snowflake we start with a triangle made up of 4 smaller triangles. This is then stretched out, cut into 6 and then finished in the same way as an orange or lemon rock.

the FLOWER design

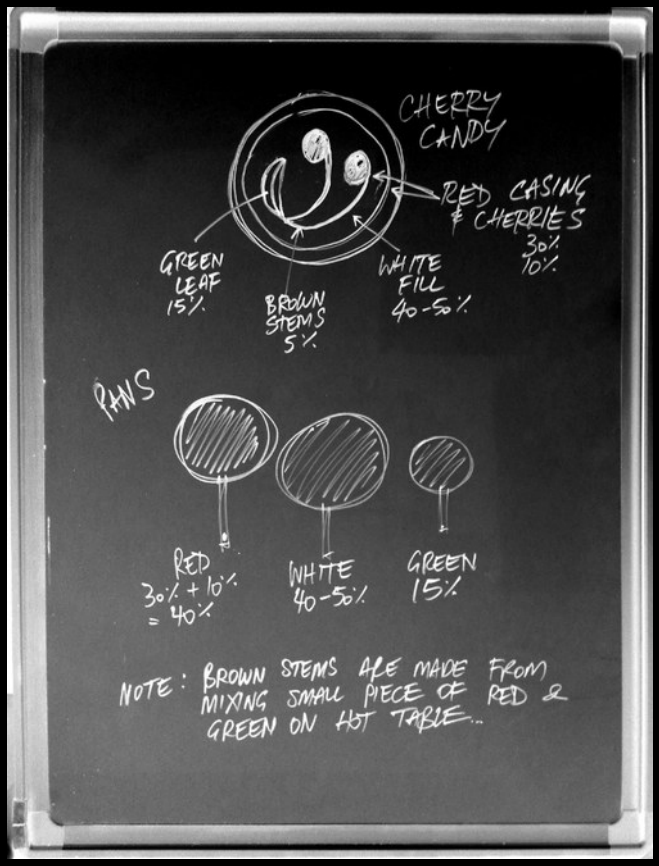
The petals are rolled on the rolling / cooling table to make sure they are harder than the white candy and hold their shape when stuck around the centre colour. The white spaces are softer than the petals, and therefore they will be shaped to the round shape of the petals as they are pushed into the gaps.

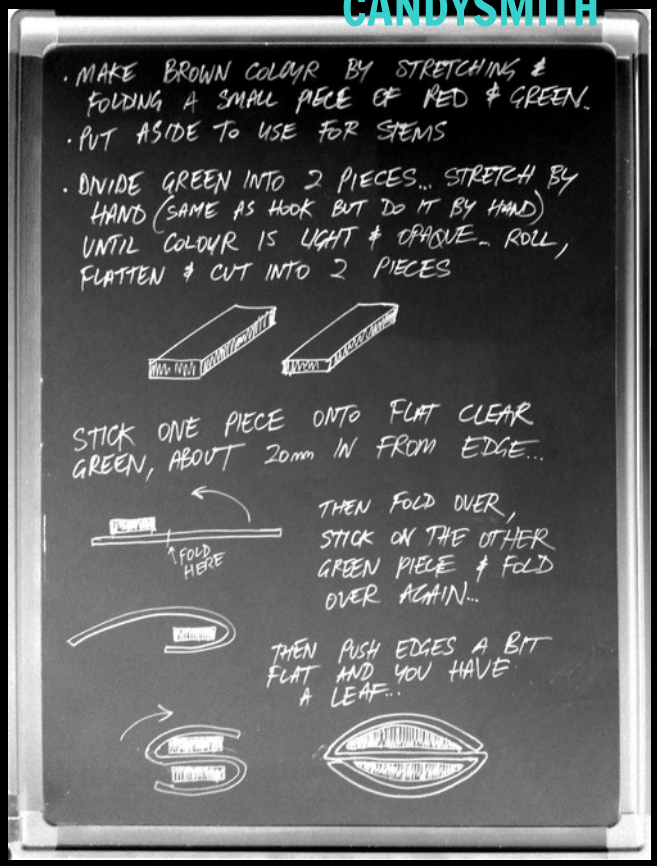
The flower design is one of the most common designs used for weddings. It is fast and easy to make, and once the basic steps are understood, the flower can be made in only a few minutes. The colour combinations are endless, and the number of petals can be 4, 5, 6 or more... It's up to you!
We have used a stretched (pulled on the hook) colour for the inside of the petals, which is wrapped with clear (unstretched) candy of the same colour. In this candy we have used orange petals with a yellow centre.

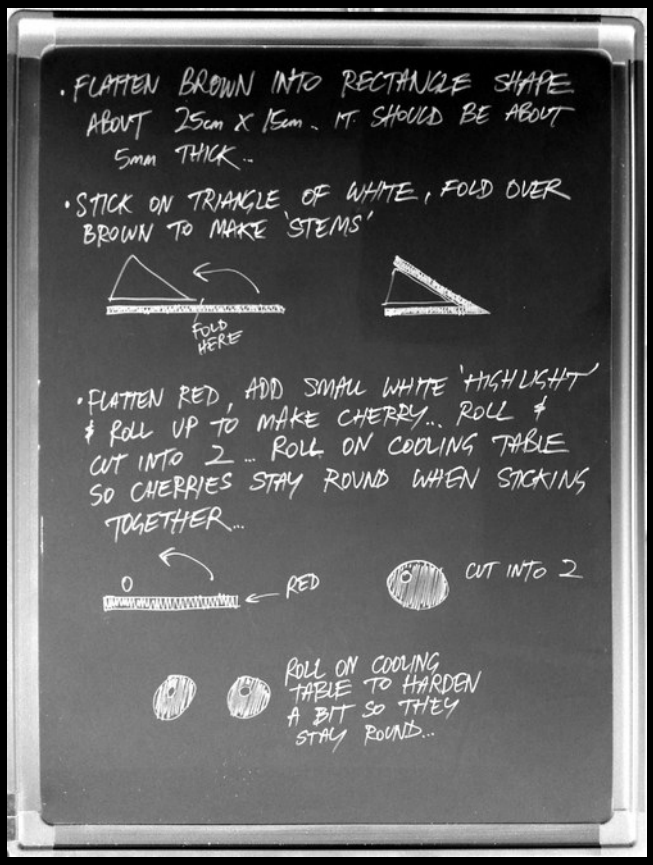
CANDYSMITH

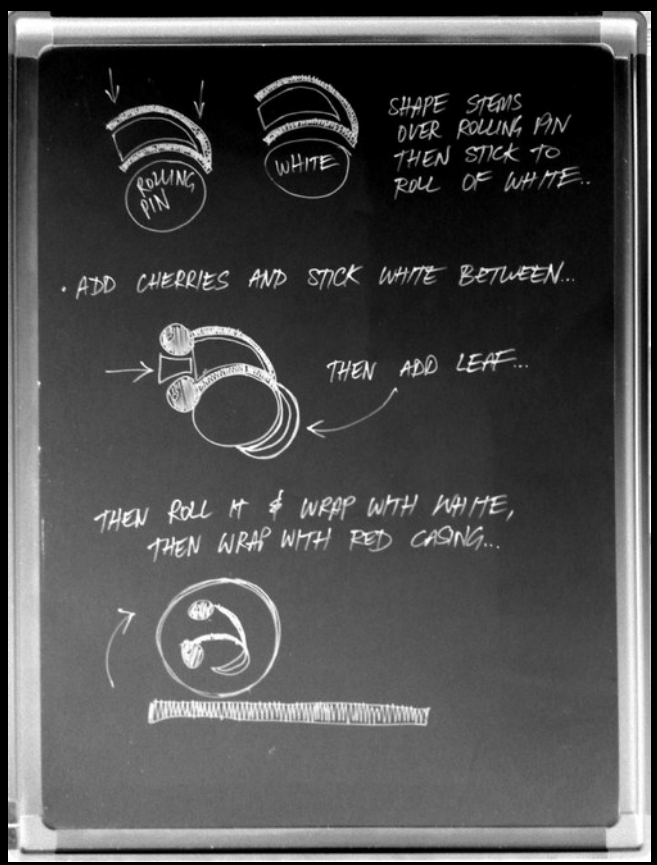
The petals are made around 25cm long and rolled on the rolling table until they harden a little bit.
The centre colour, in this case the yellow, is slightly smaller in diameter than the petals, and is also 25cm long. The white triangles are prepared as the petals and centre are being rolled. The petals are stuck onto the yellow centre, and the triangles are stuck into the gaps to keep the round shape of the petals. It should be done quickly to avoid any of the petals going flat from sitting on the hot table too long. The white triangles should be softer than the petals, so when the white triangles are pushed into the gaps, they take the shape of the petals. The flower is then wrapped with more white and used as needed, either in a candy by itself or in a design that has lettering around the outside.

cherry rock


CHERRY CANDY
RED CASING & CHERRIES 30% 10%
GREEN LEAF 15%
BROWN STEMS 5%
WHITE FILL 40-50%
PANS
RED 30% + 10% = 40%
WHITE 40-50%
GREEN 15%
NOTE: BROWN STEMS ARE MADE FROM MIXING SMALL PIECE OF RED & GREEN ON HOT TABLE..


• MAKE BROWN COLOUR BY STRETCHING & FOLDING A SMALL PIECE OF RED & GREEN.
• PUT ASIDE TO USE FOR STEMS
• DIVIDE GREEN INTO 2 PIECES.. STRETCH BY HAND (SAME AS HOOK BUT DO IT BY HAND) UNTIL COLOUR IS LIGHT & OPAQUE.. ROLL, FLATTEN & CUT INTO 2 PIECES
STICK ONE PIECE ONTO FLAT CLEAR GREEN, ABOUT 20mm IN FROM EDGE..
FOLD HERE
THEN FOLD OVER, STICK ON THE OTHER GREEN PIECE & FOLD OVER AGAIN..
THEN PUSH EDGES A BIT FLAT AND YOU HAVE A LEAF..

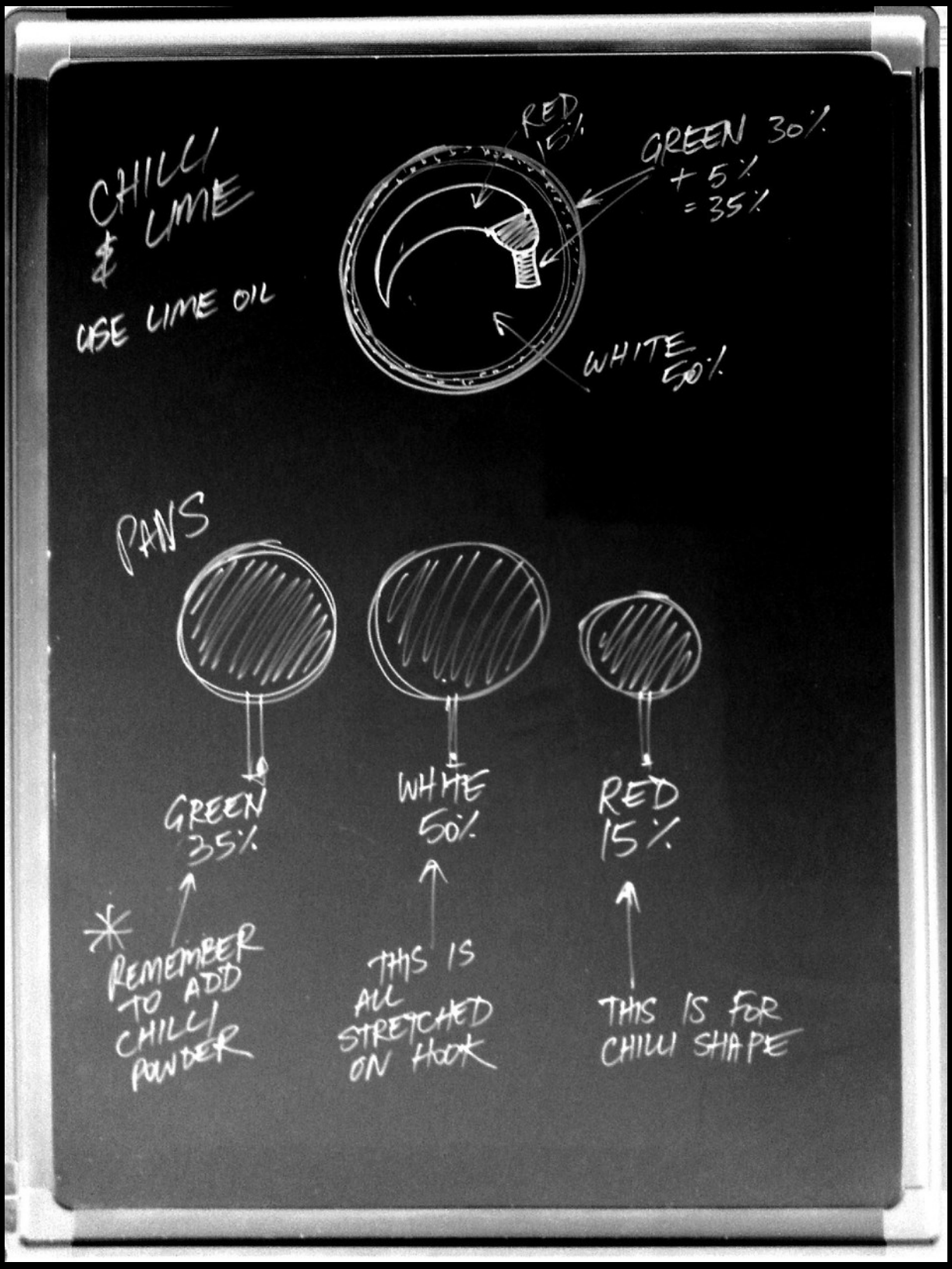

• FLATTEN BROWN INTO RECTANGLE SHAPE ABOUT 25cm X 15cm. IT SHOULD BE ABOUT 5mm THICK..
• STICK ON TRIANGLE OF WHITE, FOLD OVER BROWN TO MAKE 'STEMS'
FOLD HERE
• FLATTEN RED, ADD SMALL WHITE 'HIGHLIGHT' & ROLL UP TO MAKE CHERRY... ROLL & CUT INTO 2... ROLL ON COOLING TABLE SO CHERRIES STAY ROUND WHEN STICKING TOGETHER...
RED
CUT INTO 2
ROLL ON COOLING TABLE TO HARDEN A BIT SO THEY STAY ROUND..


ROLLING PIN
WHITE
SHAPE STEMS OVER ROLLING PIN THEN STICK TO ROLL OF WHITE..
• ADD CHERRIES AND STICK WHITE BETWEEN..
THEN ADD LEAF...
THEN ROLL IT & WRAP WITH WHITE, THEN WRAP WITH RED CASING...

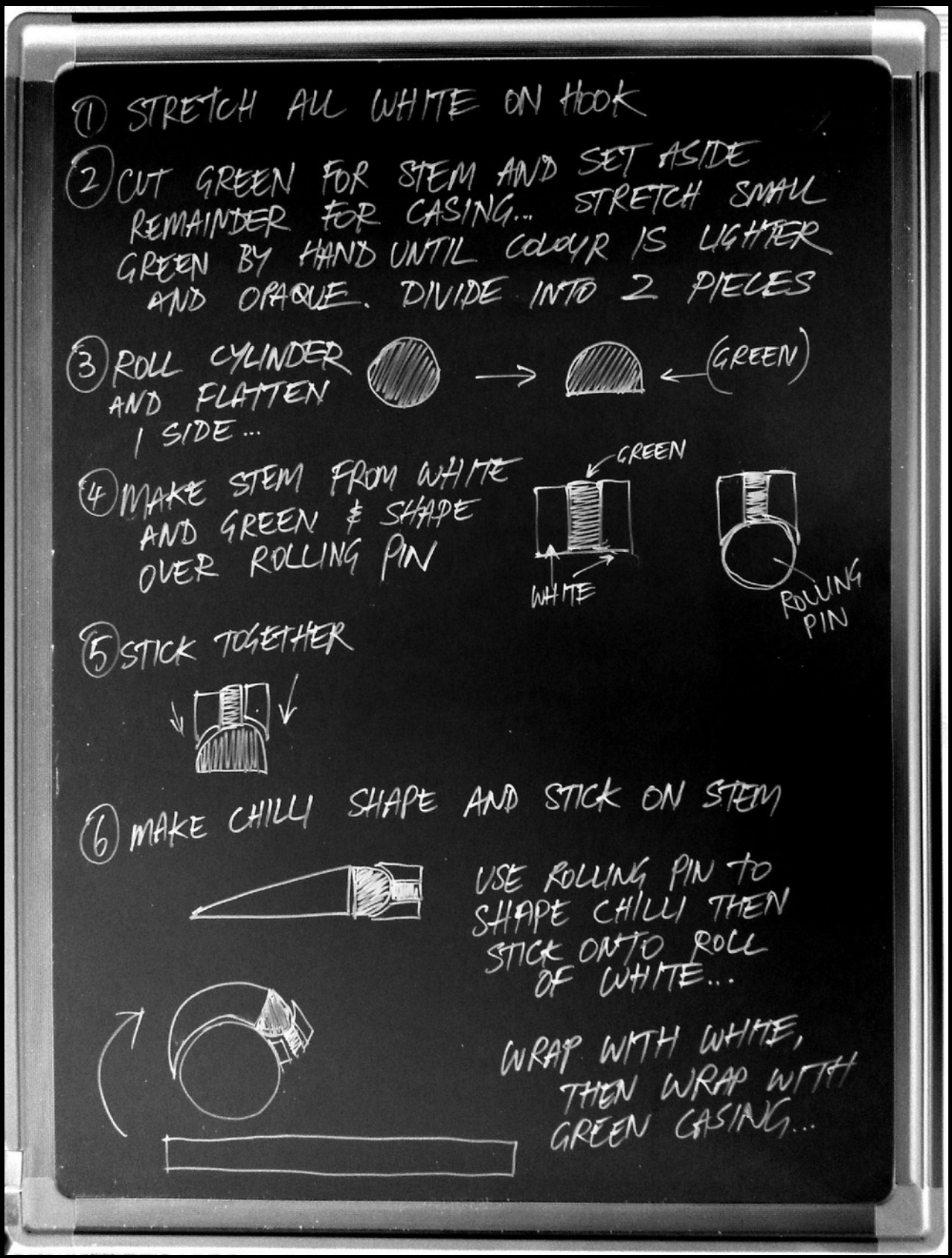
The two cherries are rolled on the cooling / rolling table for a minute until they have cooled slightly and are harder than the white fill. That way they will hold their round shape while it is all put together.

CANDYSMITH

chilli and lime rock



Chilli and Lime rock on the training kitchen whiteboard.

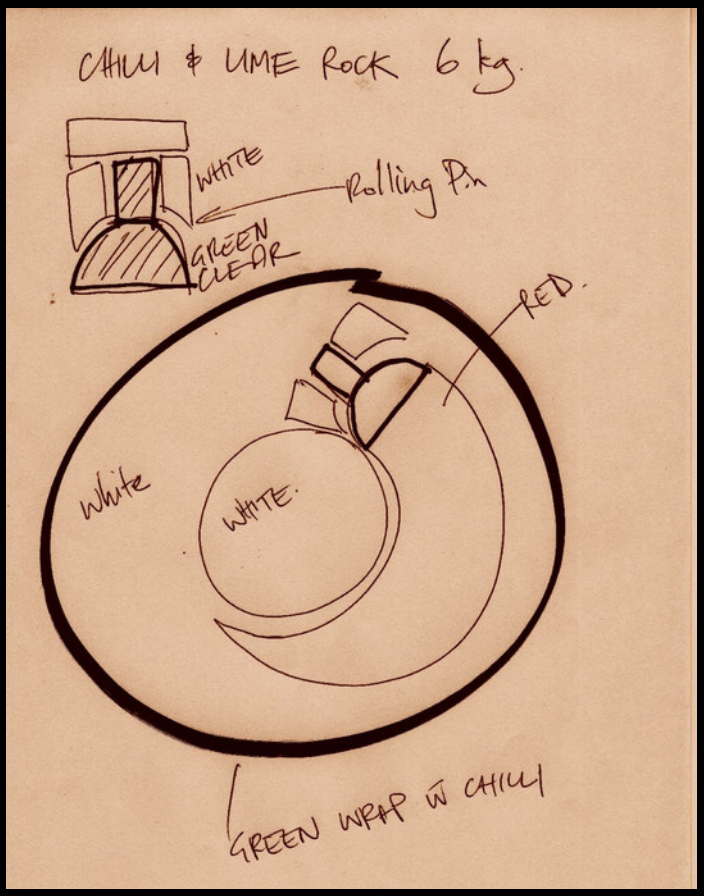

1 STRETCH ALL WHITE ON HOOK
2 CUT GREEN FOR STEM AND SET ASIDE REMAINDER FOR CASING... STRETCH SMALL GREEN BY HAND UNTIL COLOUR IS LIGHTER AND OPAQUE. DIVIDE INTO 2 PIECES
3 ROLL CYLINDER AND FLATTEN 1 SIDE...
(GREEN)
4 MAKE STEM FROM WHITE AND GREEN & SHAPE OVER ROLLING PIN
GREEN
WHITE
ROLLING PIN
5 STICK TOGETHER
6 MAKE CHILLI SHAPE AND STICK ON STEM
USE ROLLING PIN TO SHAPE CHILLI THEN STICK ONTO ROLL OF WHITE...
WRAP WITH WHITE, THEN WRAP WITH GREEN CASING...

Use a rolling pin to shape the chilli before adding the white centre.

Chilli and lime rock... Natural lime oil with dried chilli added to the wrap / casing.

The chilli is added to the candy just after we add the green colour on the pouring table. This flavour was first made in our Coolum Beach 'Cane & Able' studio, and now has been copied by many candy shops around the world.

In this case, the chilli comes from fresh crushed chilli mixed with dried chilli powder and dried chilli flakes. The sugar coats the chilli, so the flavour of the candy starts with lime, then the heat of the chilli comes through afterwards. It can be made as mild or spicy as you like.



The chilli flakes can be seen here in the casing.

Making 'chilli and lime' candy at a live demonstration at an artisan market on the Sunshine Coast in Queensland, Australia.

the SKULL candy

This was made from a 3kg batch. The skull is a combination of several simple candy designs included in this book.

- The eyes are stars wrapped with dots.
- The teeth are letters C or D stretched out, cut and stuck together to make teeth.
- The nose is an upside-down love heart.
- The cheeks and chin are spirals.

Each shape is made once then stretched and cut into as many as needed. In the top star pattern there are six stars joined together but only one star was made.

The above-mentioned shapes are made, then stuck together and spaced out with white, before finishing with thin flat black to make the top of the skull and edge of the jaw.

Mexican sugar skull traditionally symbolizes the cyclical nature of life, death, and rebirth, often decorated joyfully to honor deceased loved ones during Día de los Muertos (Day of the Dead).

CANDYSMITH

festive candy

Now you have seen the plans for a simple happy face design and the more complicated sugar skull design, you can see how those techniques can help you plan and make other candy with faces, such as festive candy.

Here are some samples of festive candy...
This page - Reindeer faces made for Christmas. We also make Santa faces, some letter rock with MERRY XMAS or MERRY CHRISTMAS and mix together with coloured pillow candy and snowflake rock in a mix to sell during the festive season.
Around the world many different cultural celebrations - including Día de los Muertos from the previous pages - can be made into candy to sell in your store or gift to friends. Other examples include Easter, Mother's Day, Father's Day, Halloween, St Patrick's, Australia Day, Canada Day, and many more.

This page - Santa faces made for Christmas at a training session in Montreal.
Next page - Christmas candy... Santas and skulls!

animal and character faces

With planning, we can create a wide range of animal and character faces by combining the shape and letter designs included in this book.

This page - *V for Vendetta* candy

Below - Hawaii Tiki face candy

Opposite page - Panda faces! These can have a lot of character and are always a popular design.

making letters & numbers

Sections of candy are cut to size and made into whatever letter shape is required. Any colour can be used to make letters. However, black-coloured sugar is quite often used as it gives the best contrast and clarity, making it easier to read in the small finished candy.

When the sugar is poured from the pot, we allocate a certain amount for the letters, maybe 10% or 20% or whatever you need to make the letters. The more letters, the more coloured sugar you will need. For each letter we use a piece of candy about the size of a playing card and about 7mm-10mm thick.
So, if you have 8 letters for example, you can consider how much sugar you will need for letters (about 8 playing cards, each 7mm-10mm thick) as you pour the candy from the pot. If you use frying pans or size control pans, with some practice, you will know which pan to pour into and how much you need for a certain number of letters. We will also colour around 30% of the candy for the casing, and also any colours we need for design such as love heart or picture design. The remainder will usually be white - usually around 40% - 50%.

Once the candy is coloured and moved to the hot table, we should have the colour for the casing, the white candy (which will be pulled / stretched on the hook about 30 - 50 times before using), the colour for the letters, and any other colours we need. The sugar we are using for the letters is flattened evenly into a rectangle around A4 size and marked out with the required number of sections - one playing card sized section per letter, cut as needed. This ensures even thickness of each letter in the final candy. White candy is usually used for the spaces around and between letters. We also use it for a white wrap or casing before the outside coloured casing is added, providing separation between colours of the design and colours of the casing or outside colour. The letters are made / constructed shorter - around 12cm -15cm, then stretched to about 25cm - 30 cm before being spaced with white candy. It is easier to fold and shape the letters when they are shorter.

CANDYSMITH

Some of the letters can be used to make other letters, such as an N on its side is also a Z, and a V is stretched, cut and stuck together to make X.

Once the letters are understood, then it will take around 60 seconds to make each letter.
If a word has two or more of the same letter, we can make one of these and stretch it out, cut it in half to make two to save time and keep consistency with the characters. To do this you will make a 'double size' letter, using two playing card sections to make one letter then stretch it into two.
The letter candies are generally made by two people: one making the letters and the other making 'spaces' (the white candy between) and joining the letters together.

Complex logos and words can be made easy by applying some basic principles to the process. Plans and preparation cannot be over-emphasized, as we can't stop once the candy has been poured.
Once the letters are made and spaced, a picture or logo is made if required. This is made 'round', meaning that whatever shape the picture is, it will usually be finished in a round cylinder shape, for the words to be wrapped around.
The letters can be shaped over a rolling pin before adding the centre piece. This could be a logo design, a spiral, a love heart etc...
The next step will be a white casing, then the final colour casing.
The candy is then stretched into rods, rolled until hard, then cut and packed.

On the next few pages you can see, step by step, how the letters and spacing were made for the DUBAI UAE candy that was sent to Dubai.
On the following pages are the steps to make the lowercase and uppercase letters. Some of the letters are not included as they are too simple to include, or are the same as other letters - such as a W is like an M but upside-down, and a Z is an N on the side. The letter 'I' is also not included in these plans.
The sizing of the letters will vary, depending on the size batch you are making. Some candy shops will have a limit on how many letters they will fit inside a candy of a particular size, such as 14 letters in a 10kg batch or 8 letters in a 6kg batch. My trainees are making 10 letters in a 3kg batch in the second week of training, so really, the only limitation you have is you. If you want to make tiny letters and be very careful with the folding and sizing of each letter, and take great care and pride in your work, then you can fit as many letters in the candy as you can read.

So most of the time, when you are about to start making candy with letters inside, you will have candy for the text (in most cases it will be black), and the white has been stretched / pulled over the hook about 30 - 50 times to aerate it, plus some colour for the casing... So now what?

On the pages after the letter plans, you can see how the words are then shaped over a rolling pin, then stuck around a centre design, such as a love heart or happy face or spiral. You will need to concentrate at that stage, as the words can end up going in two directions or be upside-down... I have seen this happen many times, and it can be very frustrating to have spent so much time and energy on a candy only to stick on the words backwards at the end. Usually we made that person buy the beer for the weekend.

CANDYSMITH

STEP BY STEP DEMONSTRATION OF HOW THE LETTERS WERE MADE FOR THE DUBAI UAE CANDY. THE WRAP / CASING FOR THIS CANDY IS SHOWN LATER IN THE BOOK. THIS WILL GIVE YOU A GOOD IDEA OF THE PROCESS.

Start by cutting off enough black for text or use all the black you have, if it is not needed for anything else such as picture or logo.

Shape into a square or rectangle shape.

Smooth with rolling pin. Also check to see if there are any big air bubbles in the candy and remove if you find any.

Mark out the candy with the number of letters you need to make. Add one or two for emergency if you have enough black candy.

Cut one by one as you need them. Each letter begins about the size of a playing card, some need more, some need less (such as L or I)

Take white for space.

Use damp (not wet) sponge to make the candy sticky so it will join together,

Making a D.

Sticking the back of the D on.

Sticking D together.

Stretch to about 25cm.

Make white space to separate D from the next letter.

Cut off another another basic letter shape

Make a small cylinder / roll of white and stick to the edge of the black.

Finish letter U, stretch out to 25cm and stick to D using damp cloth.

Cut another black piece, roll some white, stick onto edge, to begin the letter B

Roll over to make C shape.

Stretch to about 20 cm then cut into 2

The 2 parts of the C shape ready to make the B.

The back of the B is ready.

The front of the B is stuck on and the small white triangle is prepared to go on.

The small white triangle is stuck on to finish the B.

Stretching the B, before it is stuck to the U & D.

The start of the A.

The small piece for the middle of the A is cut from the black starting shape.

Making the white spaces for A.

The shapes for A ready to stick together.

The centre of the A is stuck on.

The A is folded over to make the A shape. The A is then stretched to 25cm and stuck to the DUB.

Preparing the I from the same sized starting shape, so it is the same thickness as the other letters.

The U and A for UAE have already been made, and here we can see the beginning of the E.

The centre is stuck on, then folded over to make the E shape.

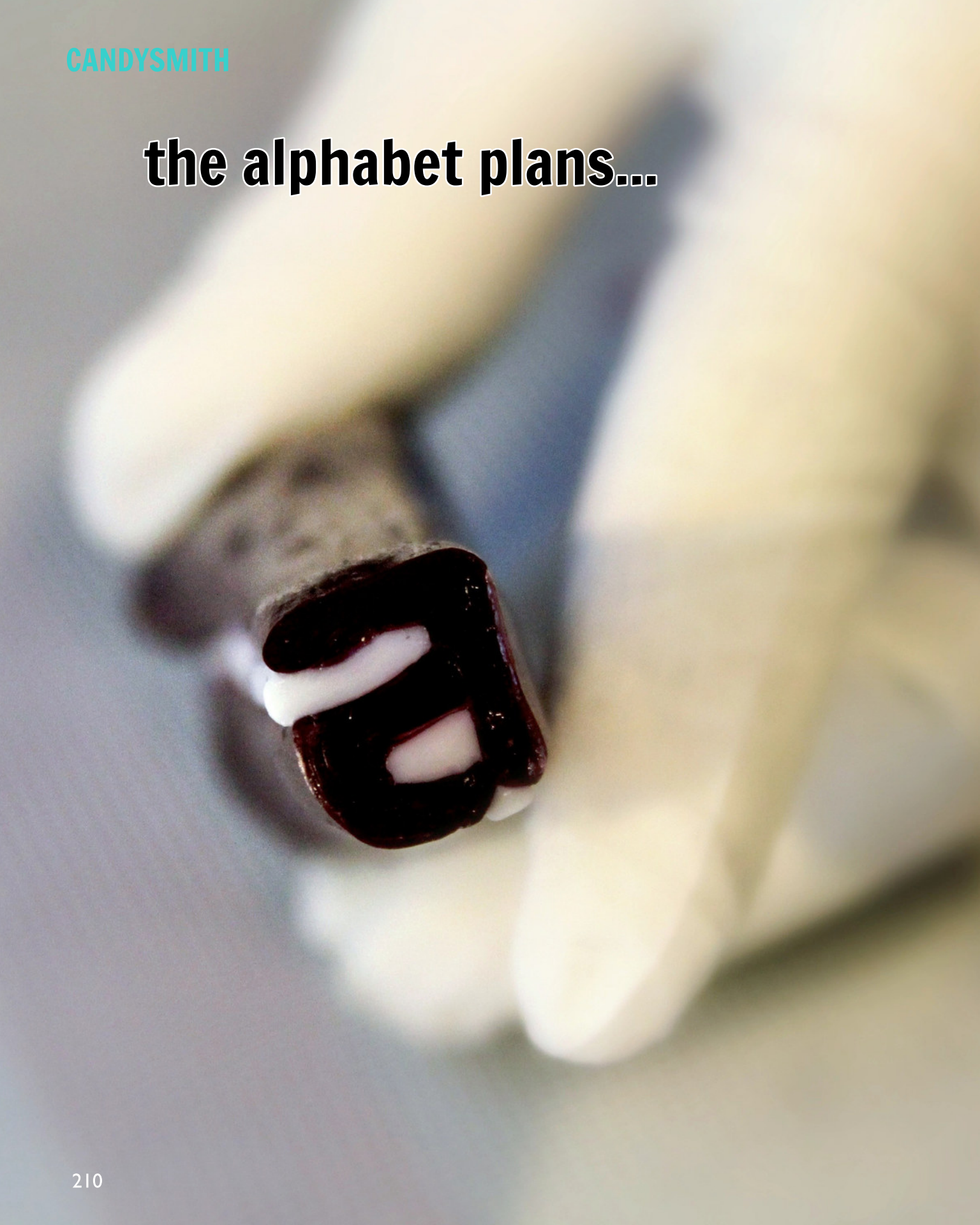
The excess is cut off.

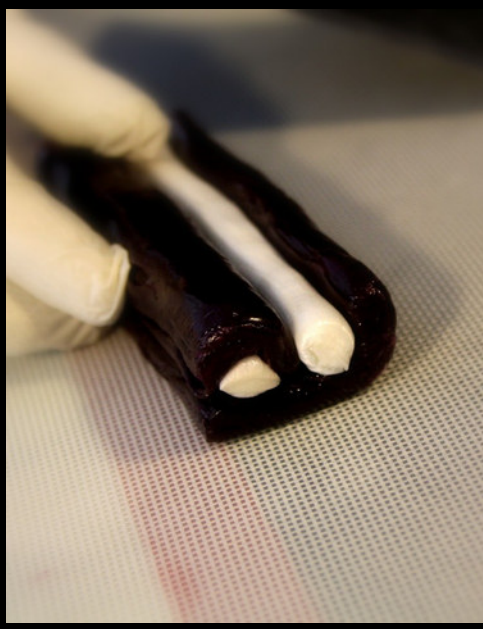
The letters can be seen here, with white spaces between each letter, and white space between the words.

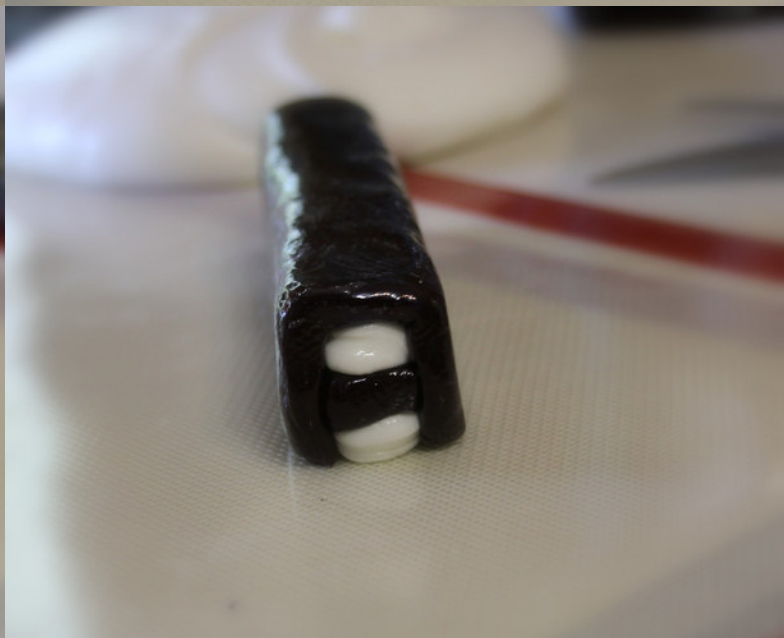
White will be stuck above and below the words to form a cylinder shape, then wrapped with white casing, then a coloured casing, then stretched out, cut into rods, rolled and cut into small pieces.

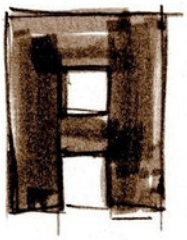
DUBAI UAE

the alphabet plans...









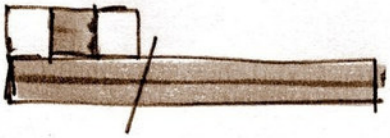
1.

basic start shape

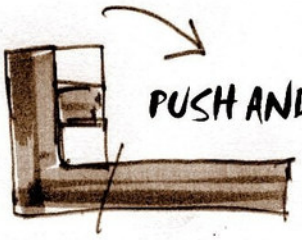
white
black
white

2.

PUSH & FOLD

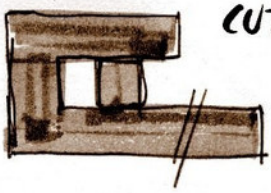


3.



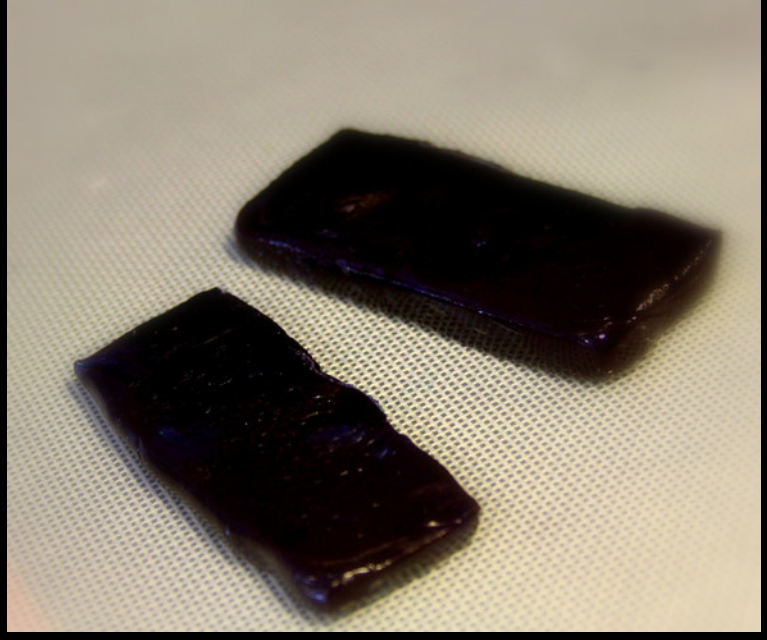
PUSH AND FOLD AGIAN

4.



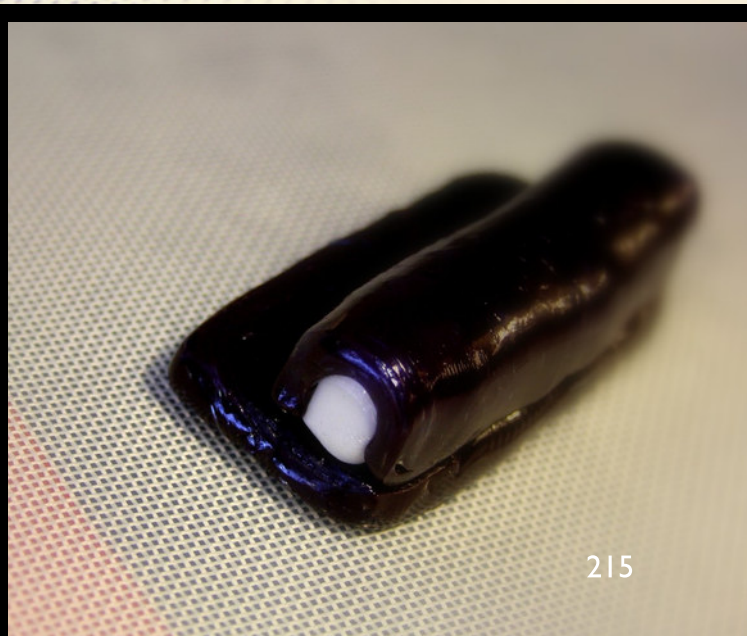
CUT OFF ANY EXCESS

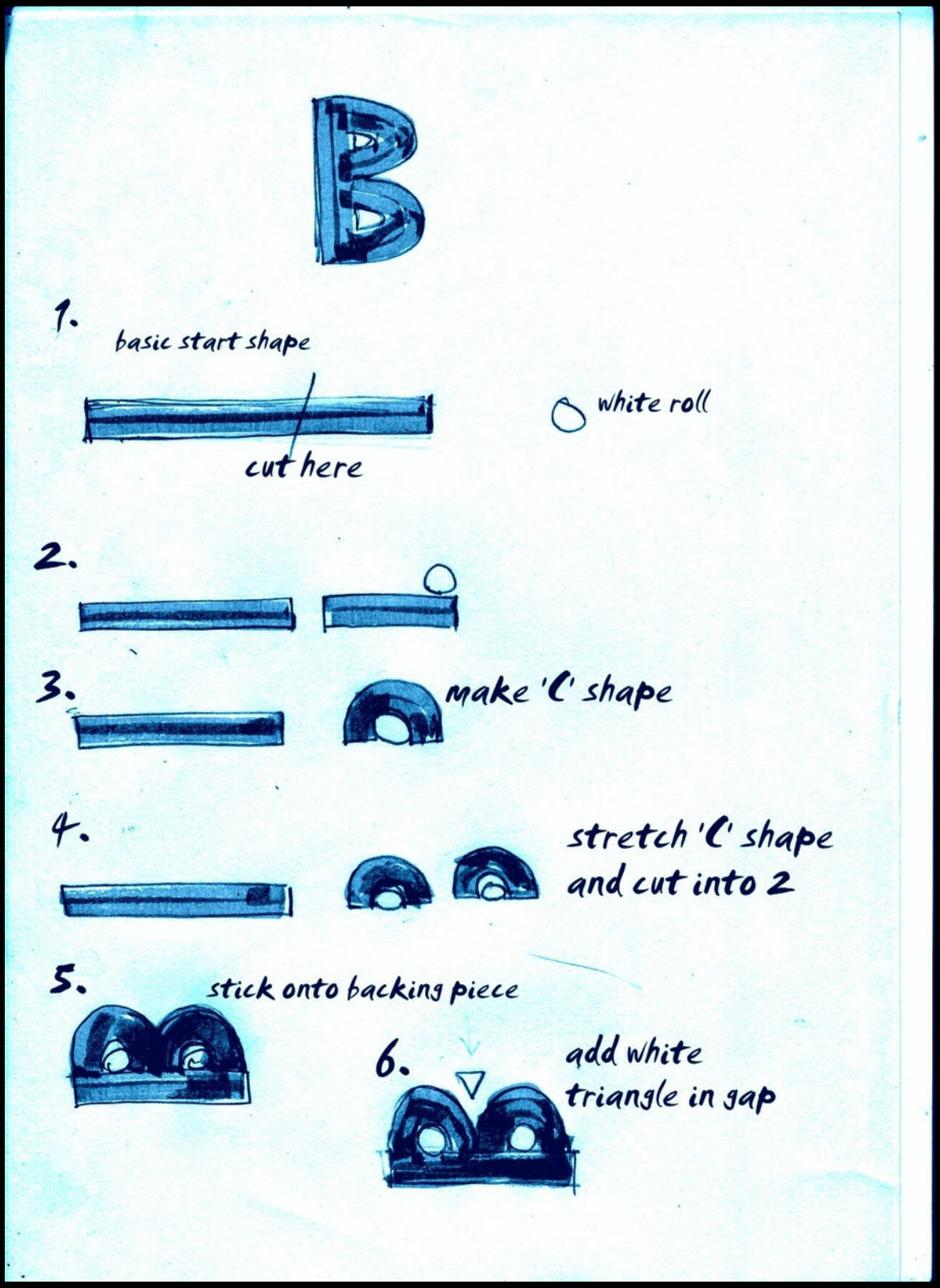
A lower case 'b' also can be a 'd' or a 'p'

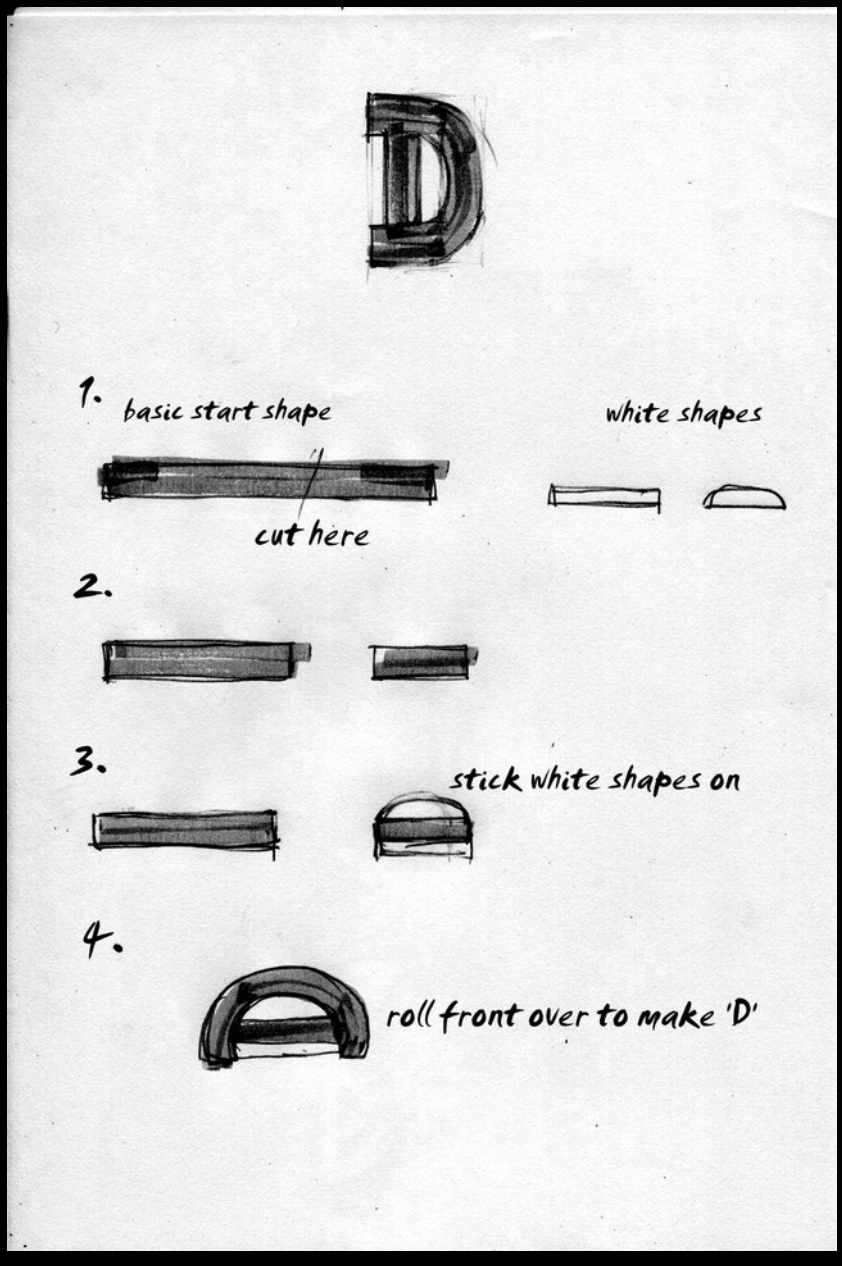


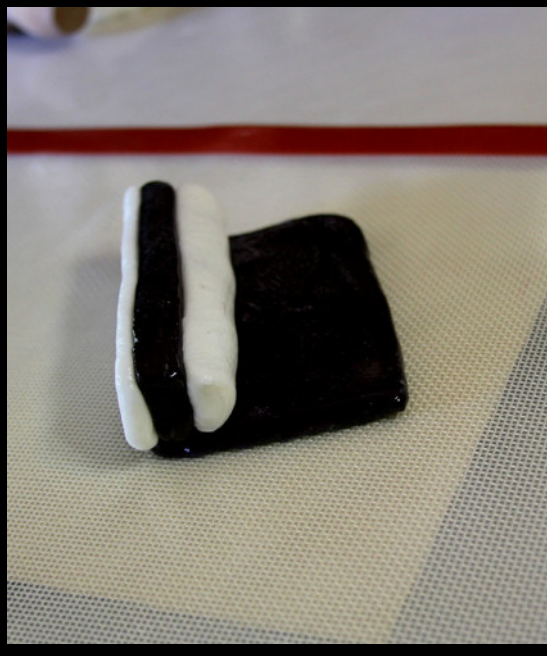
CANDYSMITH

A rolling pin can be used to create letters with variation of line thickness. Here the black piece for the 'b' is thinned and curved before the rolled white piece is added, helping to keep the round shape



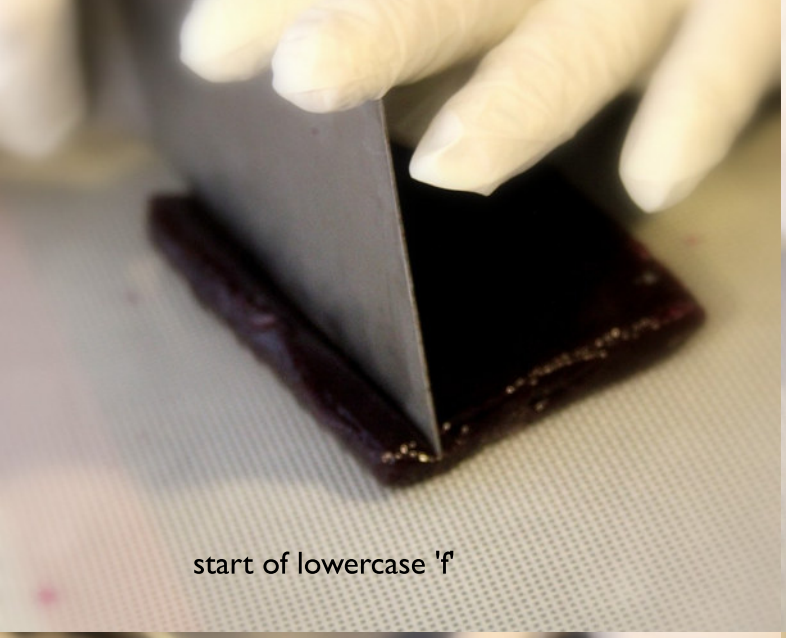

B
1.
basic start shape
cut here
white roll
2.
3.
make 'C' shape
4.
stretch 'C' shape
and cut into 2
5.
stick onto backing piece
6.
add white
triangle in gap


D
1.
basic start shape
white shapes
cut here
2.
3.
stick white shapes on
4.
roll front over to make 'D'



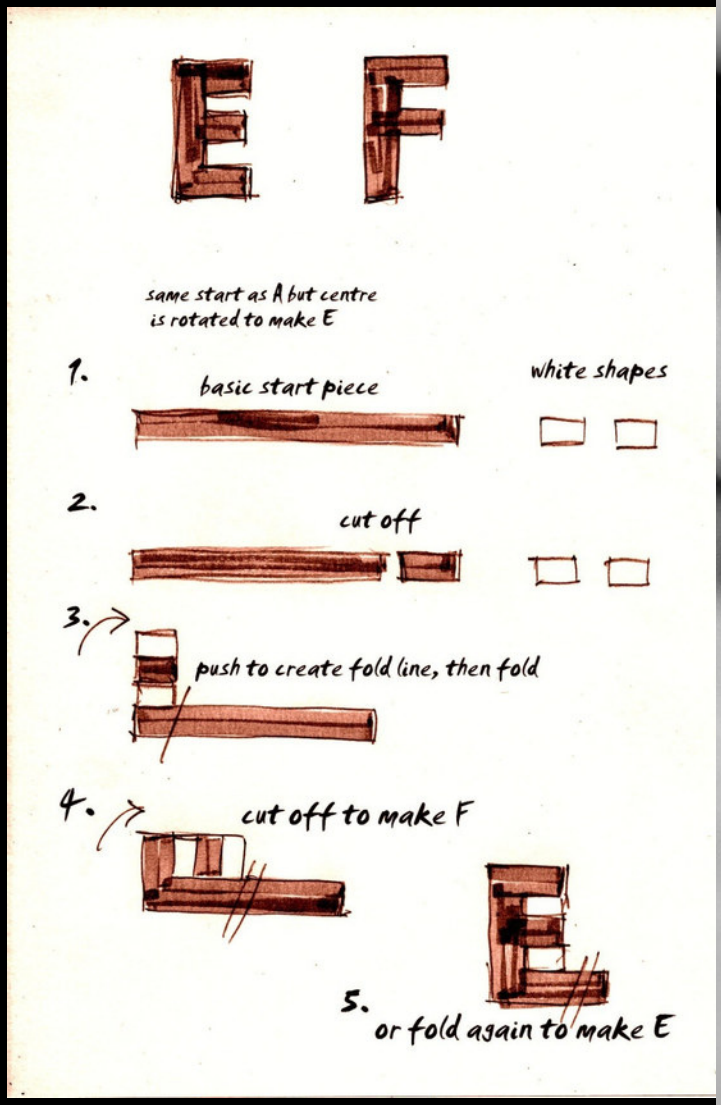
start of lowercase 'e'

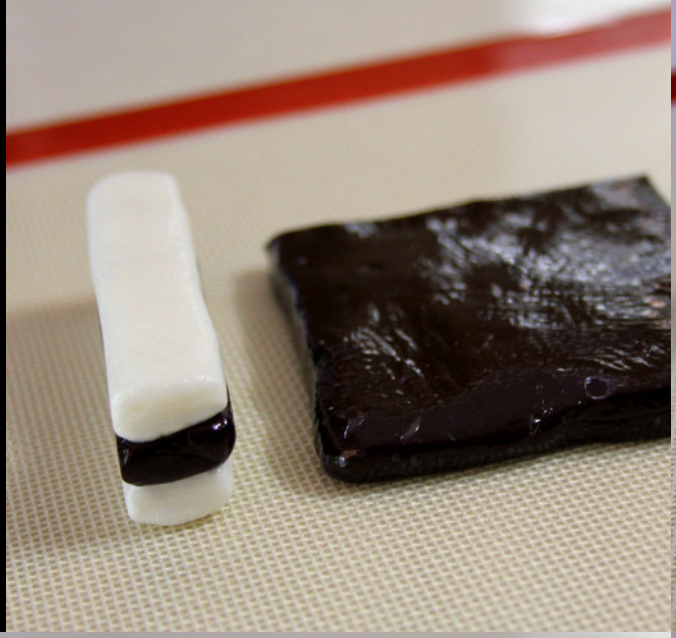
lowercase 'e'



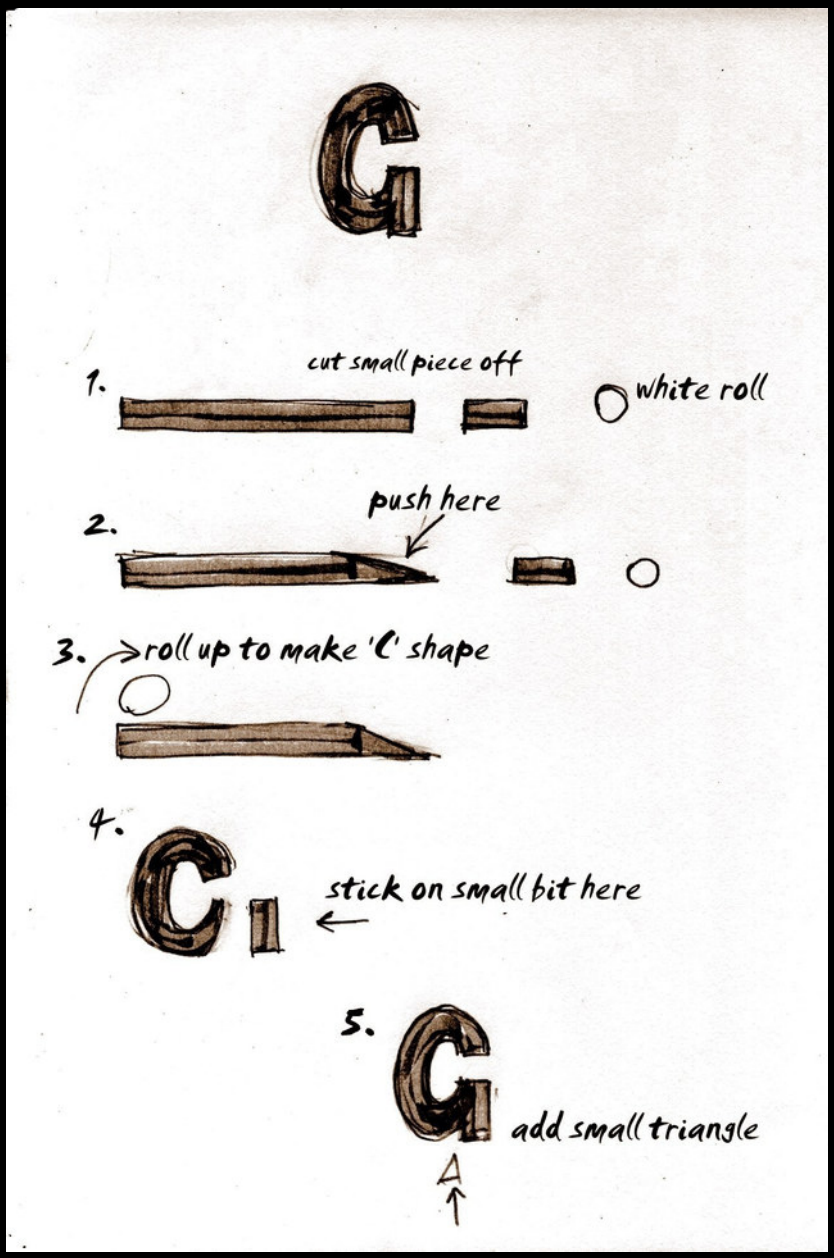
start of lowercase 'f'

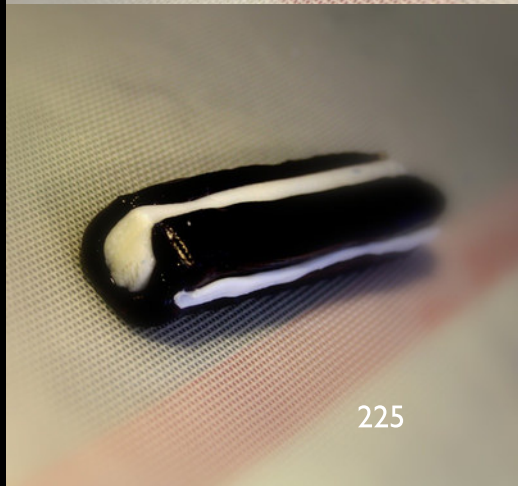
lowercase 'f'

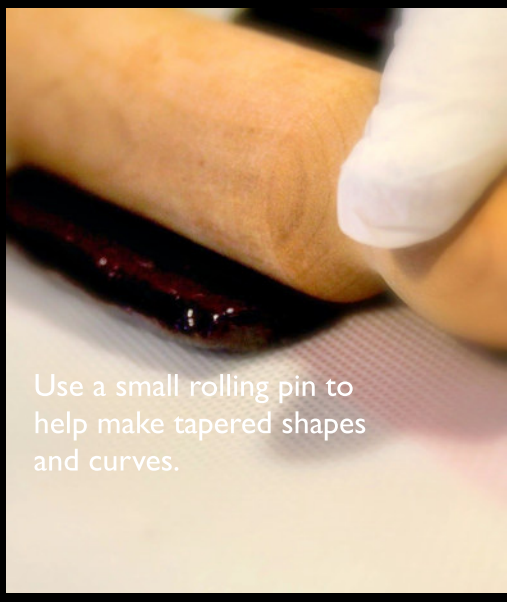

E F
same start as A but centre is rotated to make E
1.
basic start piece
white shapes
2.
cut off
3.
push to create fold line, then fold
4.
cut off to make F
5.
or fold again to make E



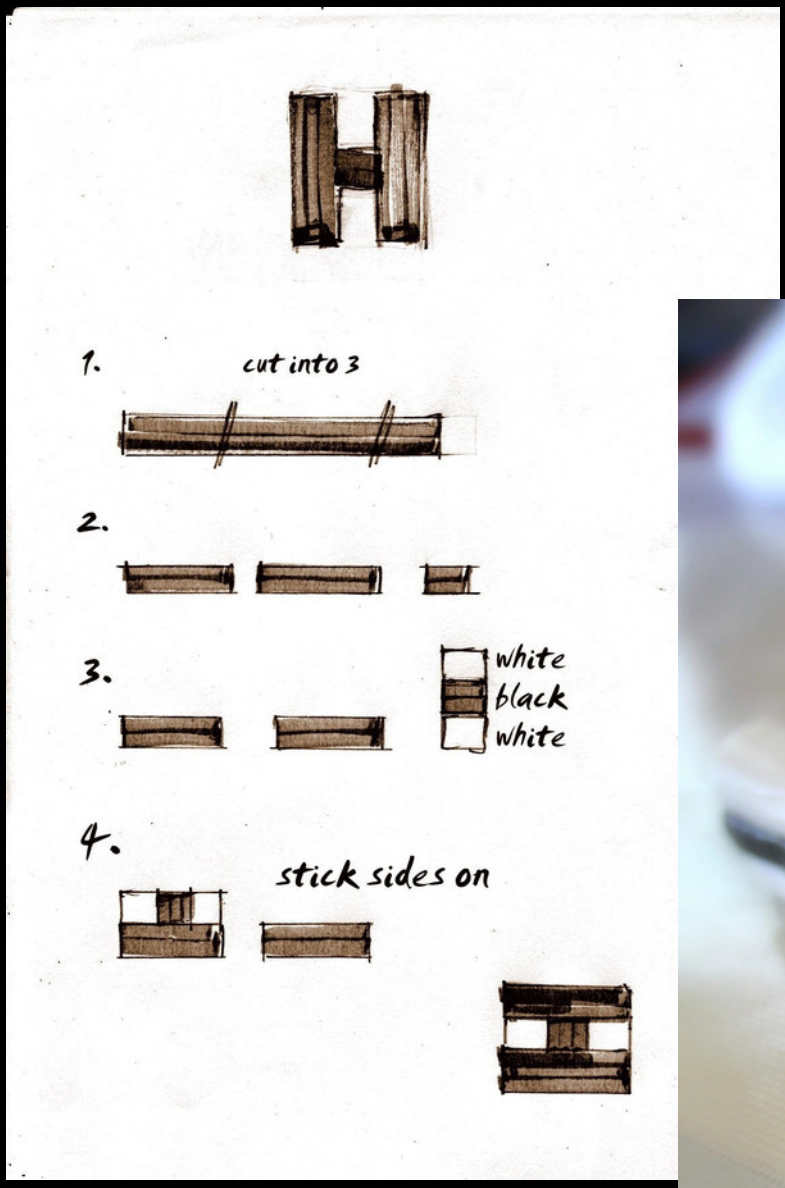
Lower case 'g' is made the same as the lowercase letter 'a' then used upside-down.


G
1.
cut small piece off
white roll
2.
push here
3.
roll up to make 'C' shape
4.
stick on small bit here
5.
add small triangle



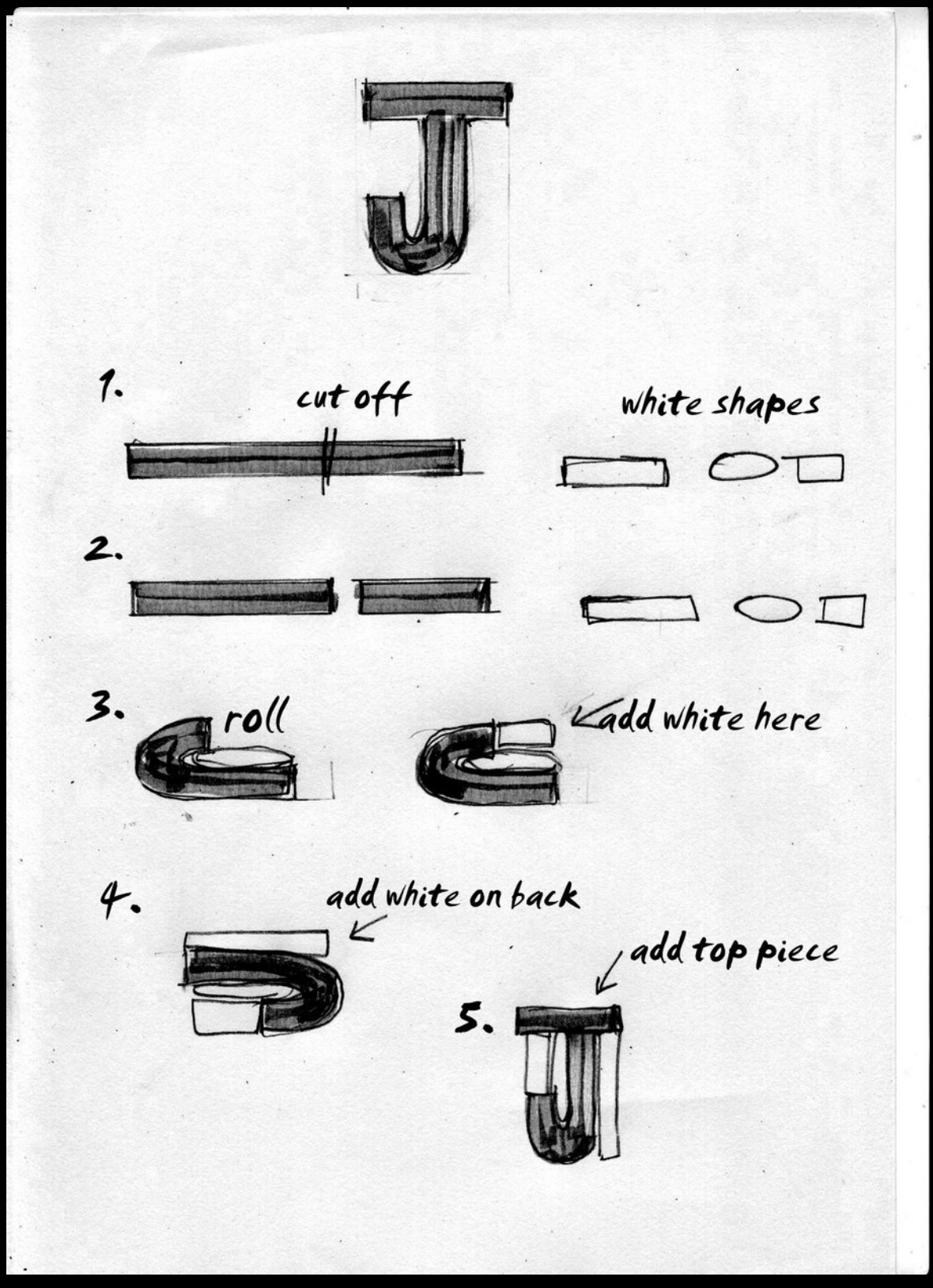


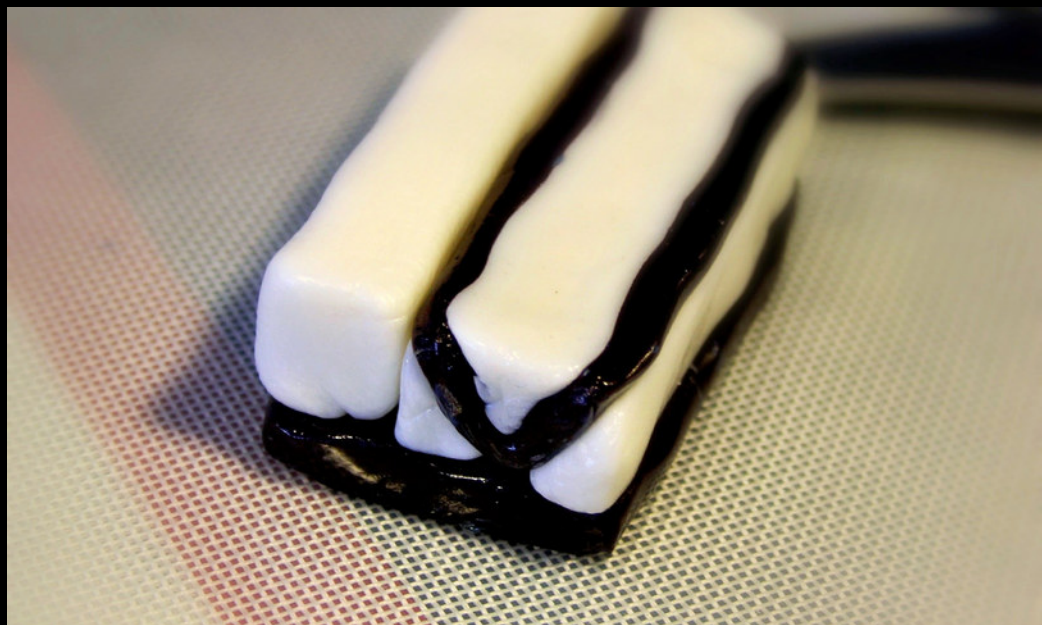
Use a small rolling pin to help make tapered shapes and curves.

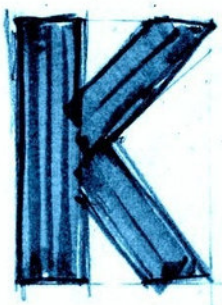

1.
cut into 3
2.
3.
white
black
white
4.
stick sides on

Lowercase ' i '
Made with a small space between the line and the dot.

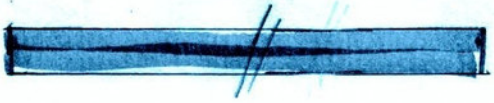
Remember!
MAKE THE LETTERS SHORT THEN STRETCH THEM TO THE LENGTH YOU NEED!!


J
1.
cut off
white shapes
2.
3.
roll
add white here
4.
add white on back
add top piece
5.



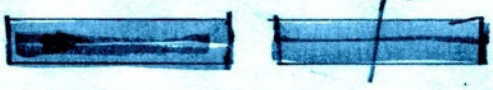


1. cut here



triangles

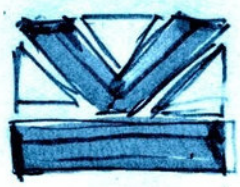
2. fold over white triangle



3.

4. add white triangles on si

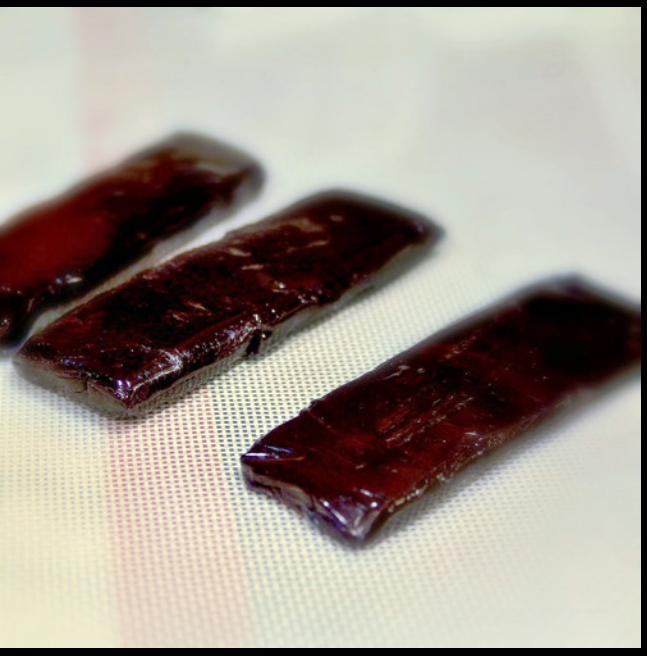
5. stick onto back piece

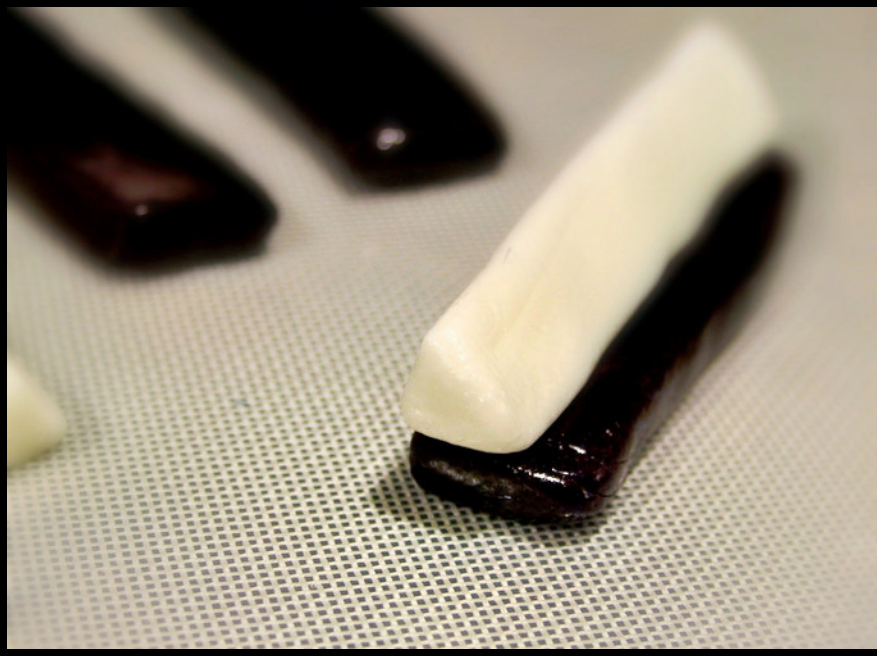


THINNER
WHERE
IT
JOINS...

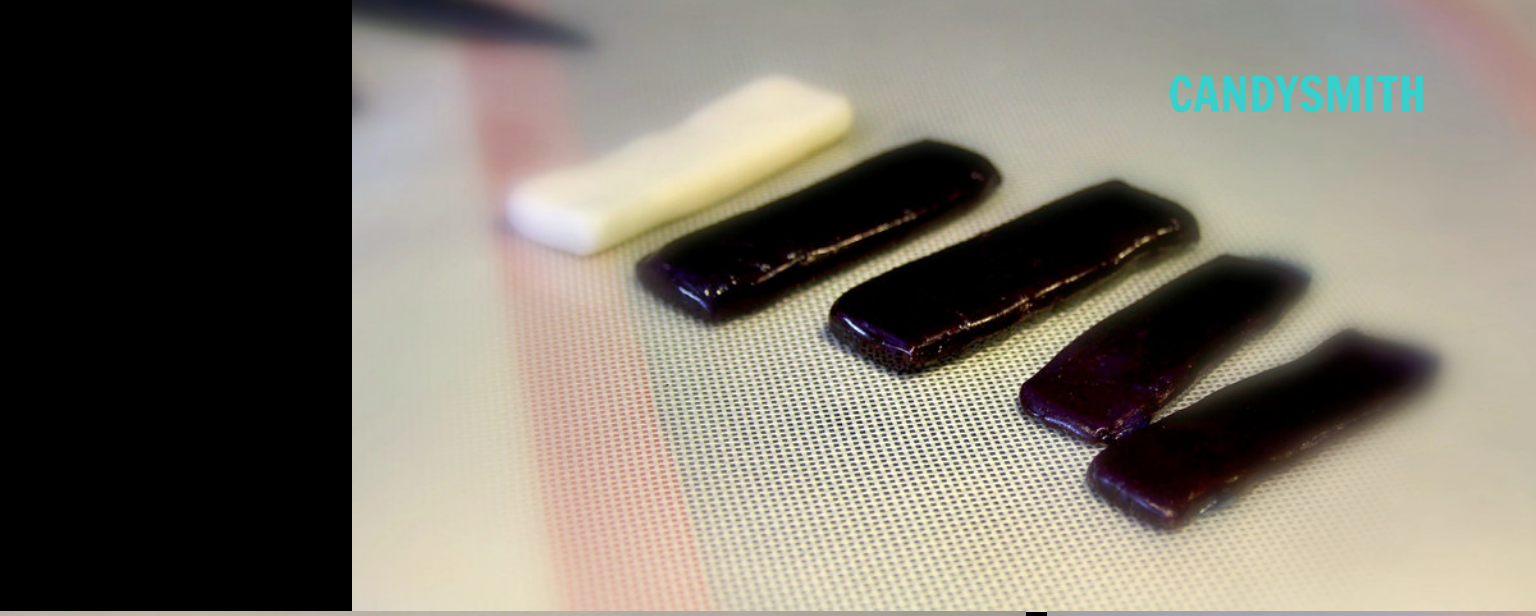
M will also make W and also a letter from the Greek alphabet (sigma).

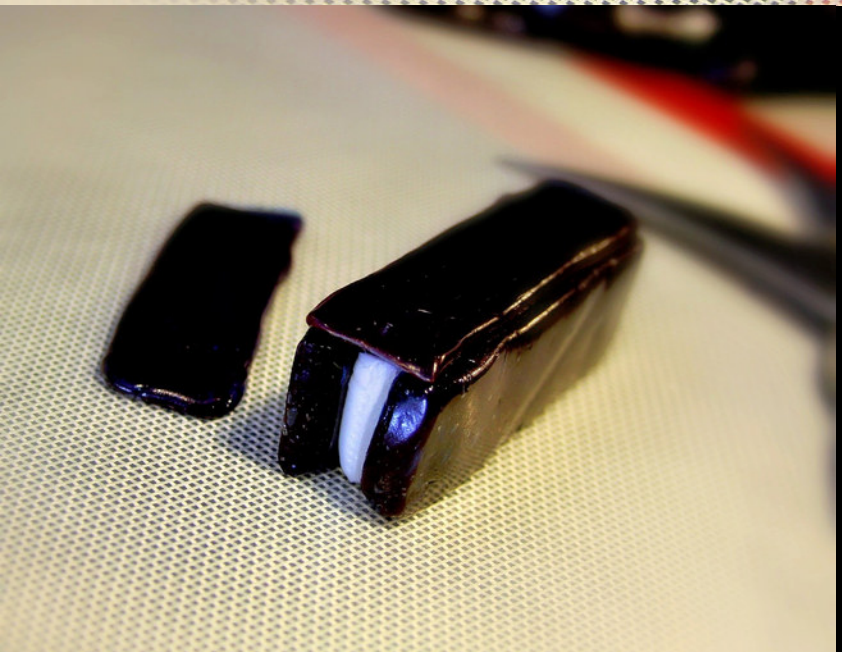
NOTE - THE 'N'
ALSO MAKES THE
LETTER 'Z'

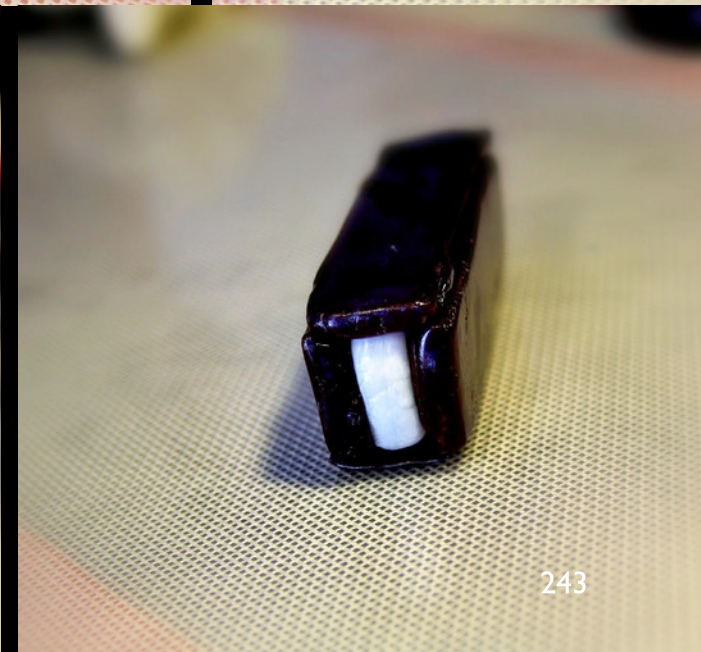


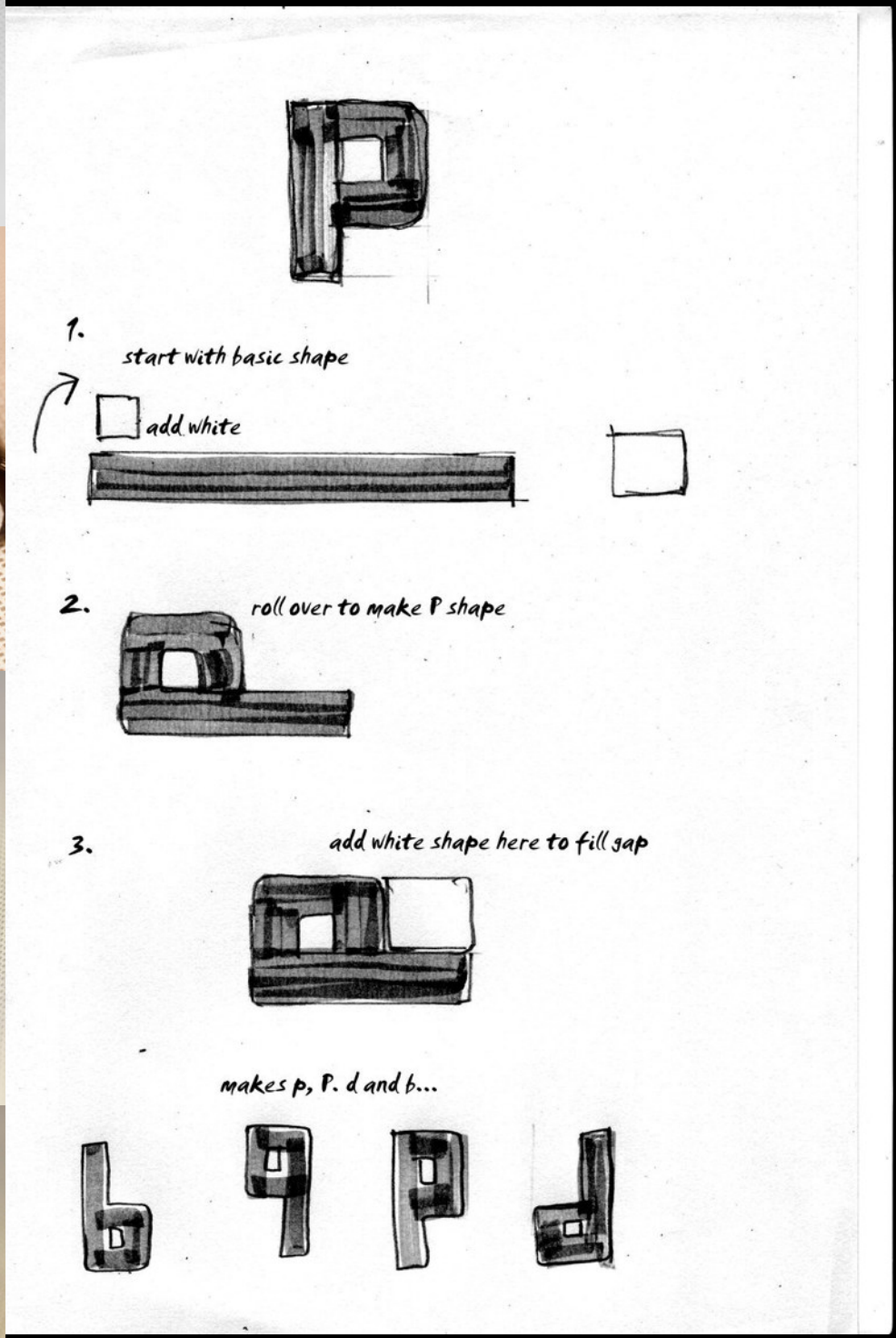


The letter 'O' can be made 'square' style or 'round' style.
Pictured above is the 'O' made in square style. A simple O can also be made by rolling a cylinder - flat black wrapped around a white centre. Care should be taken to avoid un-even joins in the round style O as it can sometimes make an O look like Q if the join can be seen.

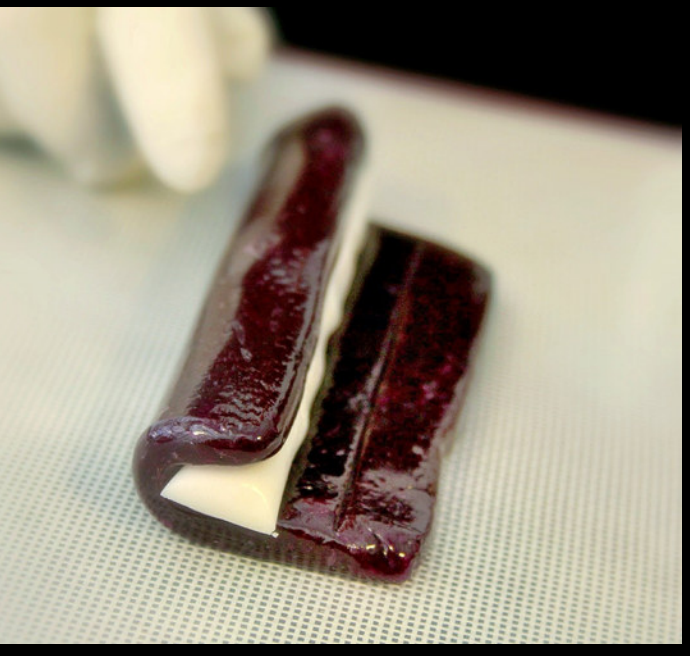


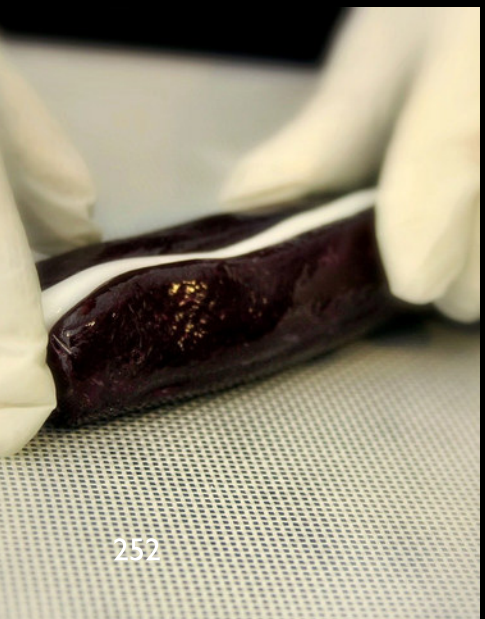





1.
start with basic shape
add white
2.
roll over to make P shape
3.
add white shape here to fill gap
makes p, P. d and b...

As you can see from plans on page 214 for letter 'b' they are the same for the letter 'P'
Always be looking for opportunities to make two or more letters at once by making the letter double in size and stretching into two letters. This can save a lot of time during the letter making process.
Other repetitions are
zero and O
'N' and 'Z'
'M' and 'W'
'6' and 'g' and 'e'
and more, so keep looking!!

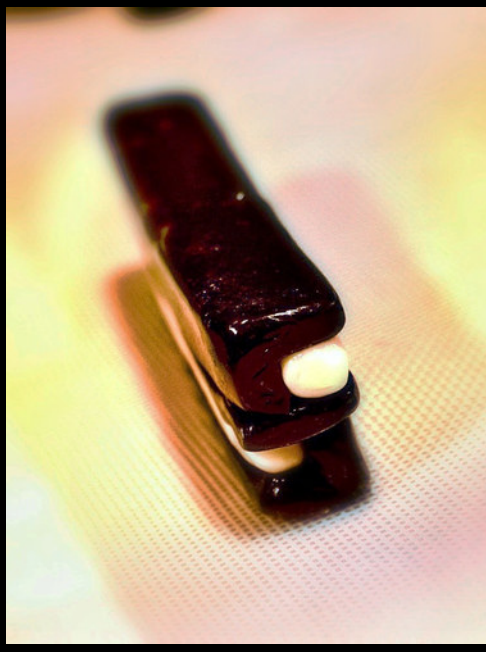


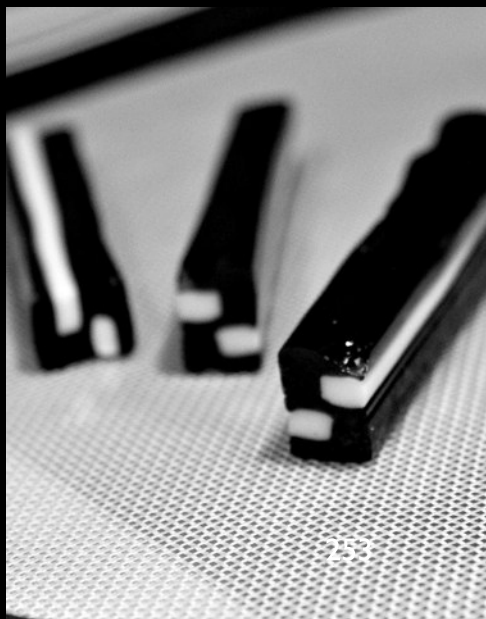


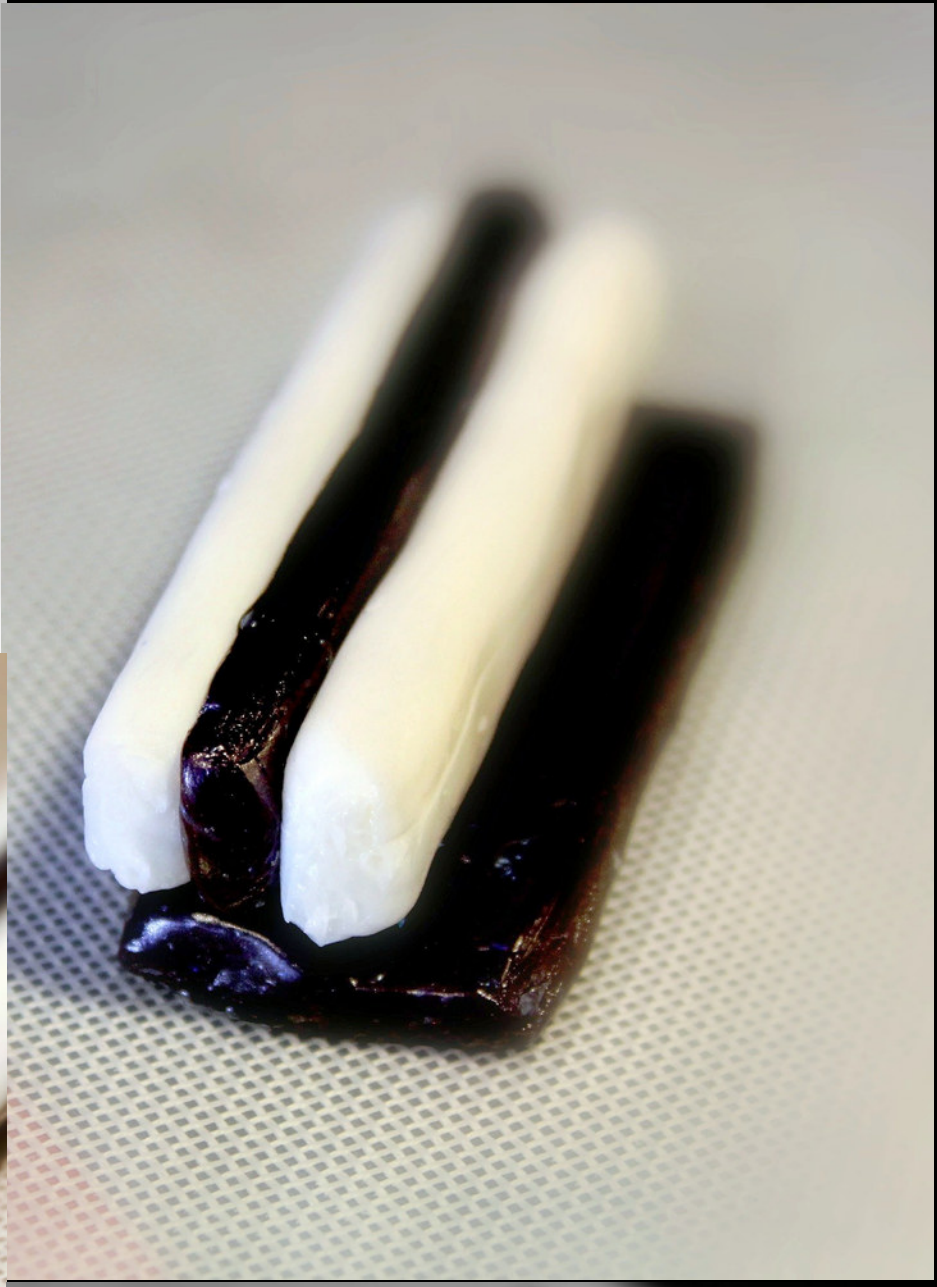
A curvy style 'S'

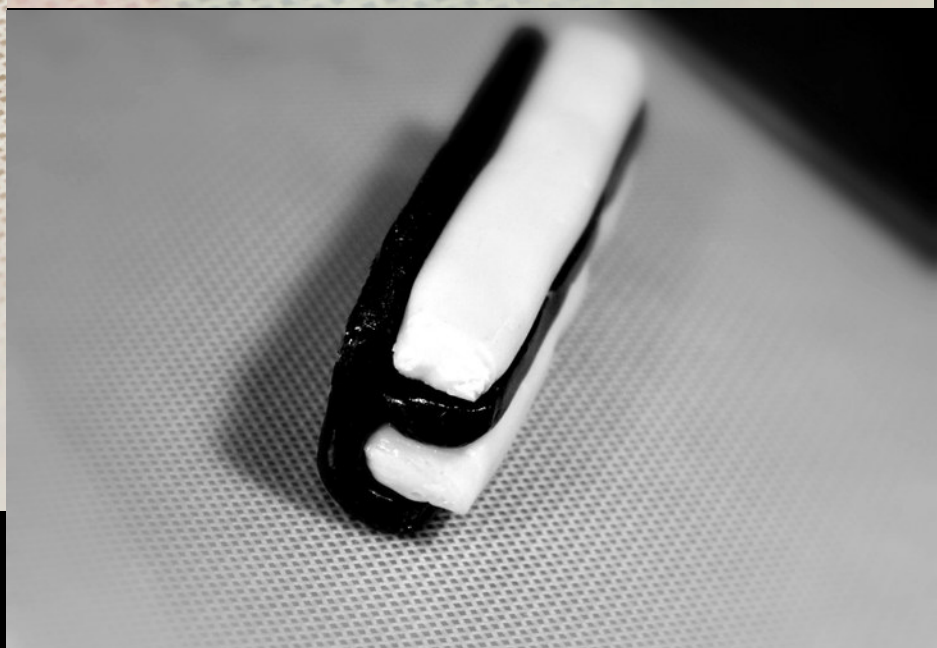
An 'S' made in digital font 'square' style. Made from 5 sections - 2 thick and 3 thin pieces cut from the starting shape.

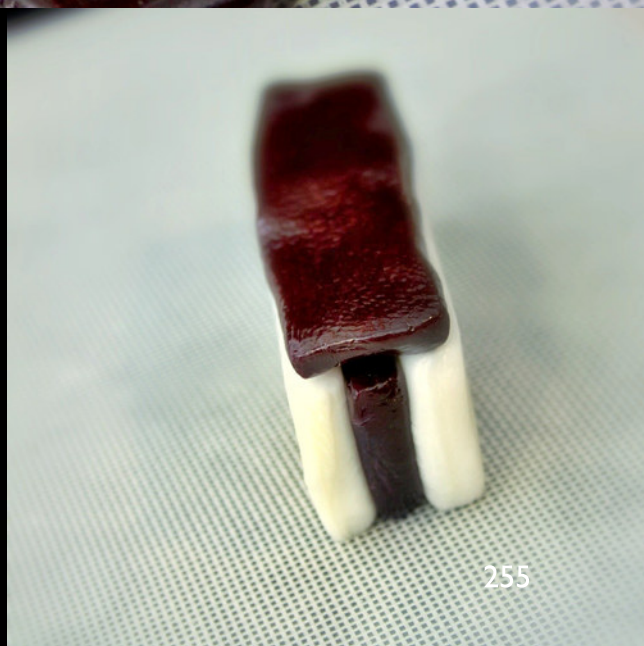
This S can also be a 5 or a 2.

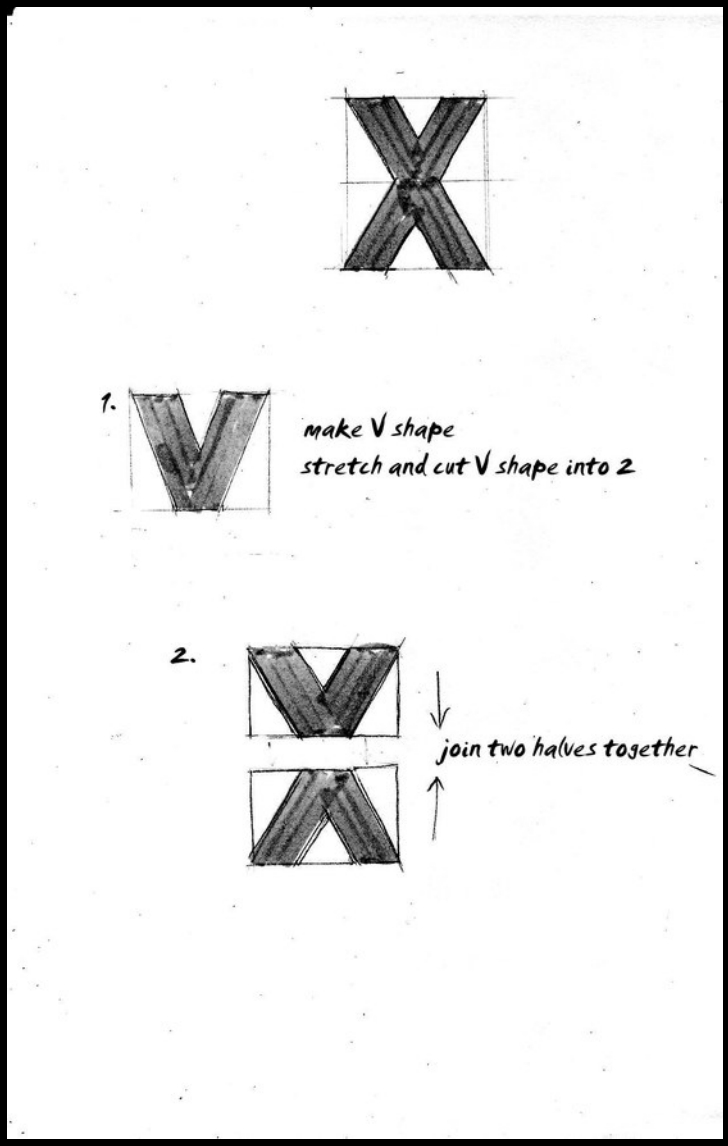


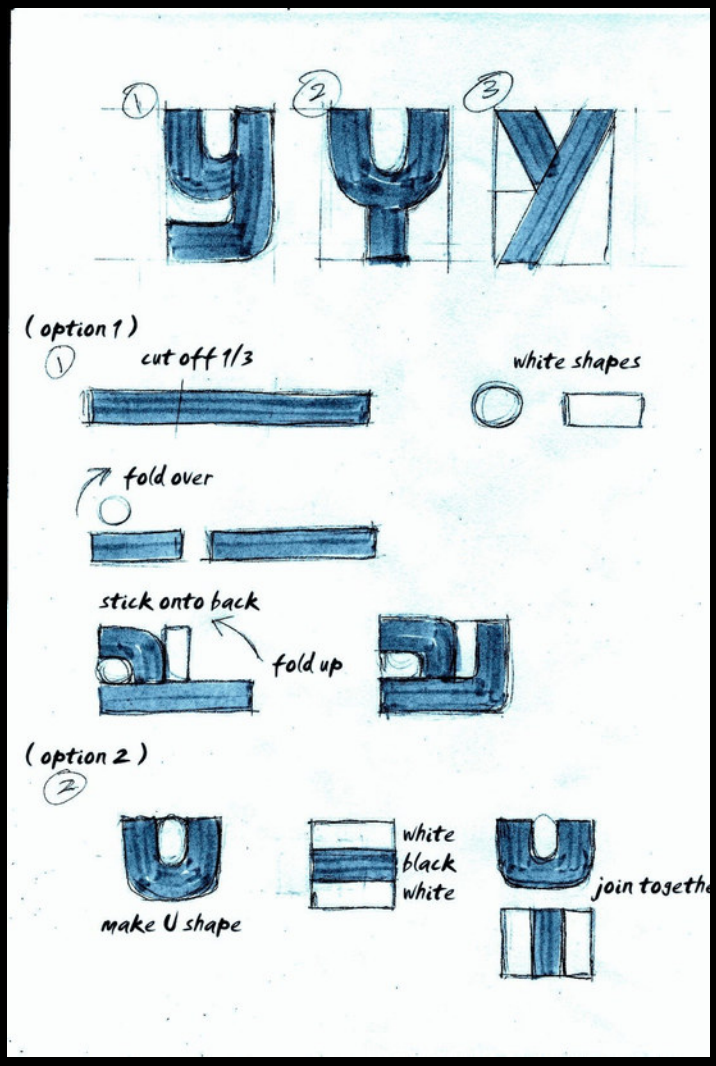


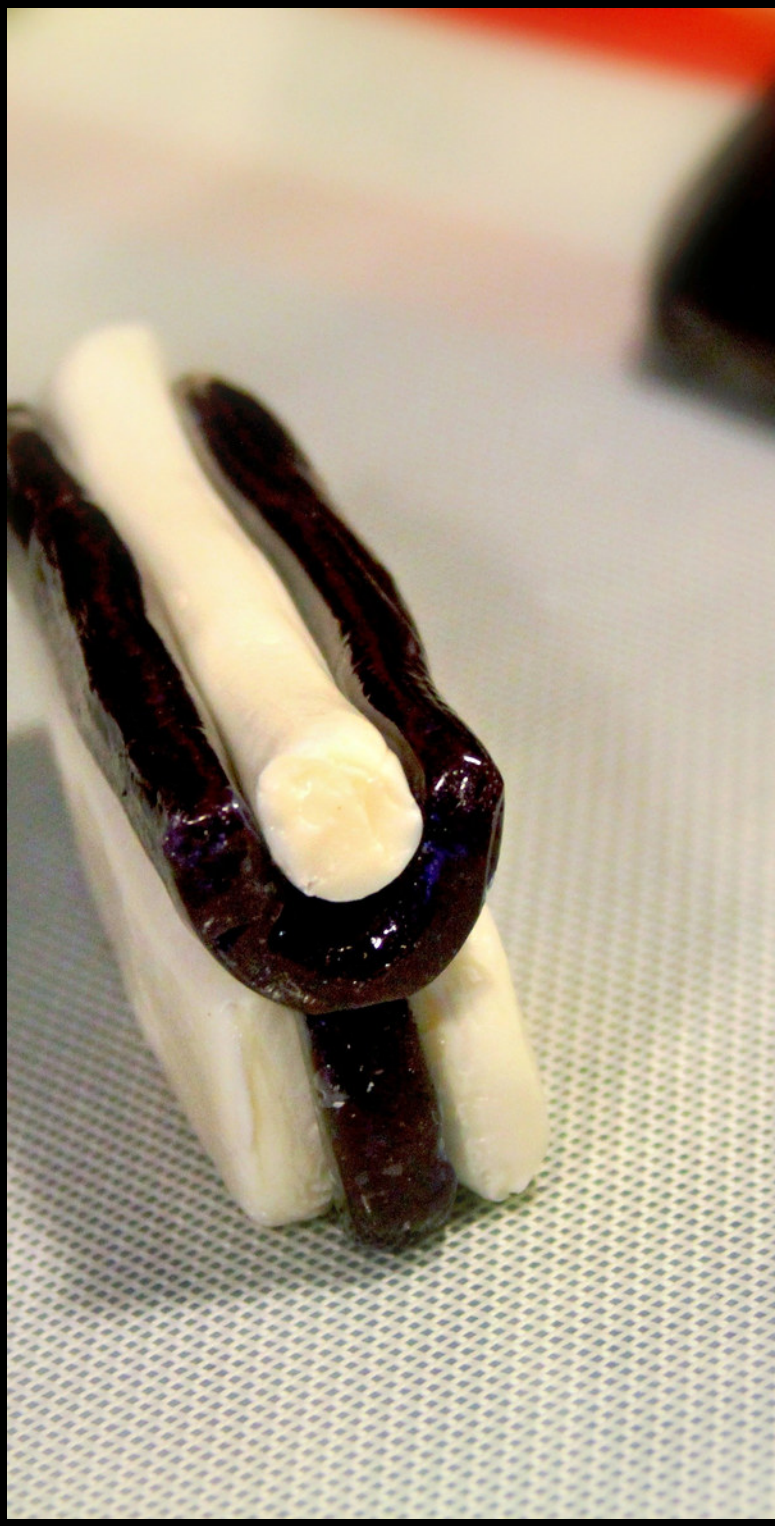




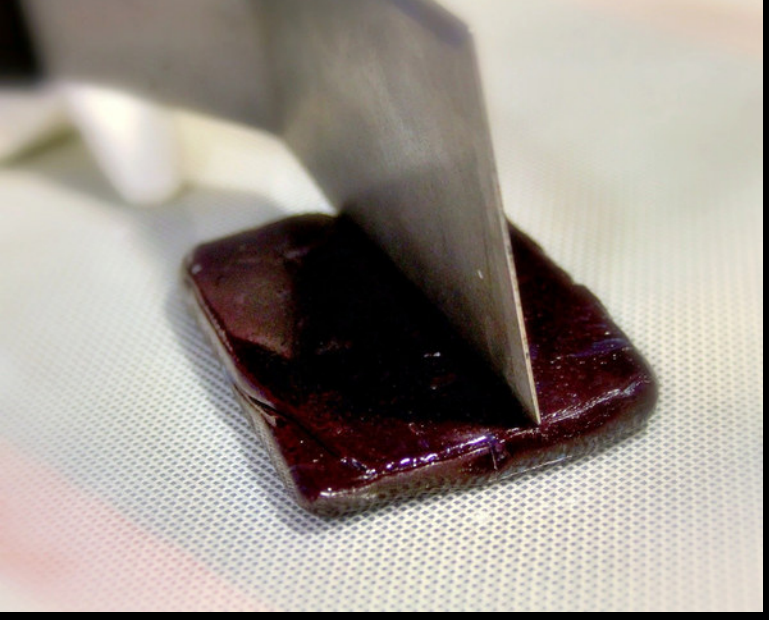



1.
make V shape
stretch and cut V shape into 2
2.
join two halves together





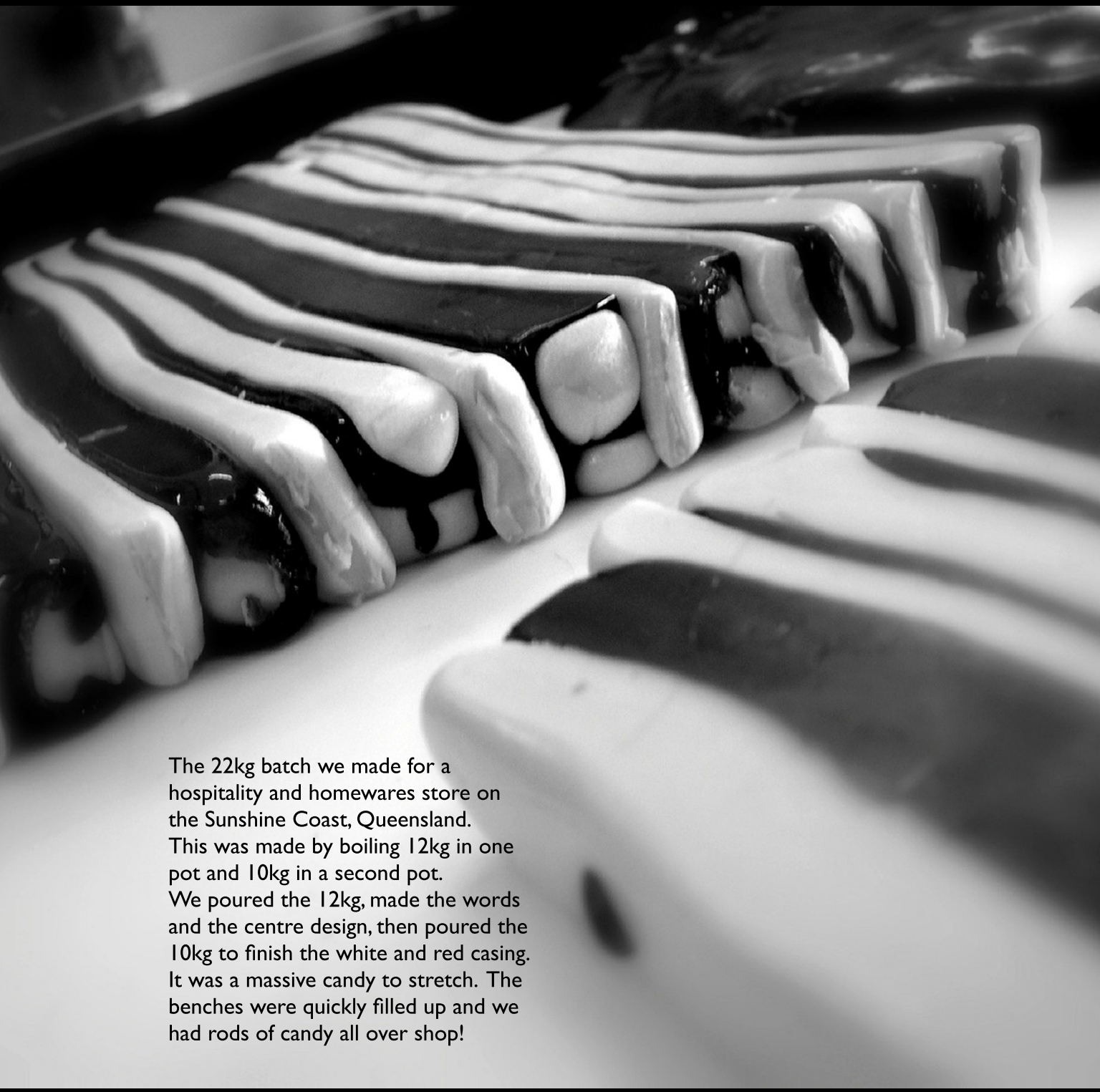
FOR LETTER 'Z' PLANS, SEE LETTER 'N'



When the letters have all been made, they are stuck together with 'spaces' made of thin white candy, then formed into a cylinder with a white centre before being wrapped again with white candy to separate the letters from the outside colour, and then wrapped with the final coloured wrap / casing.

A rolling pin will help to shape the words and prepare them for the white centre.

The letters / words will be around 30 to 40 cm long at this stage.



The 22kg batch we made for a hospitality and homewares store on the Sunshine Coast, Queensland. This was made by boiling 12kg in one pot and 10kg in a second pot. We poured the 12kg, made the words and the centre design, then poured the 10kg to finish the white and red casing. It was a massive candy to stretch. The benches were quickly filled up and we had rods of candy all over shop!

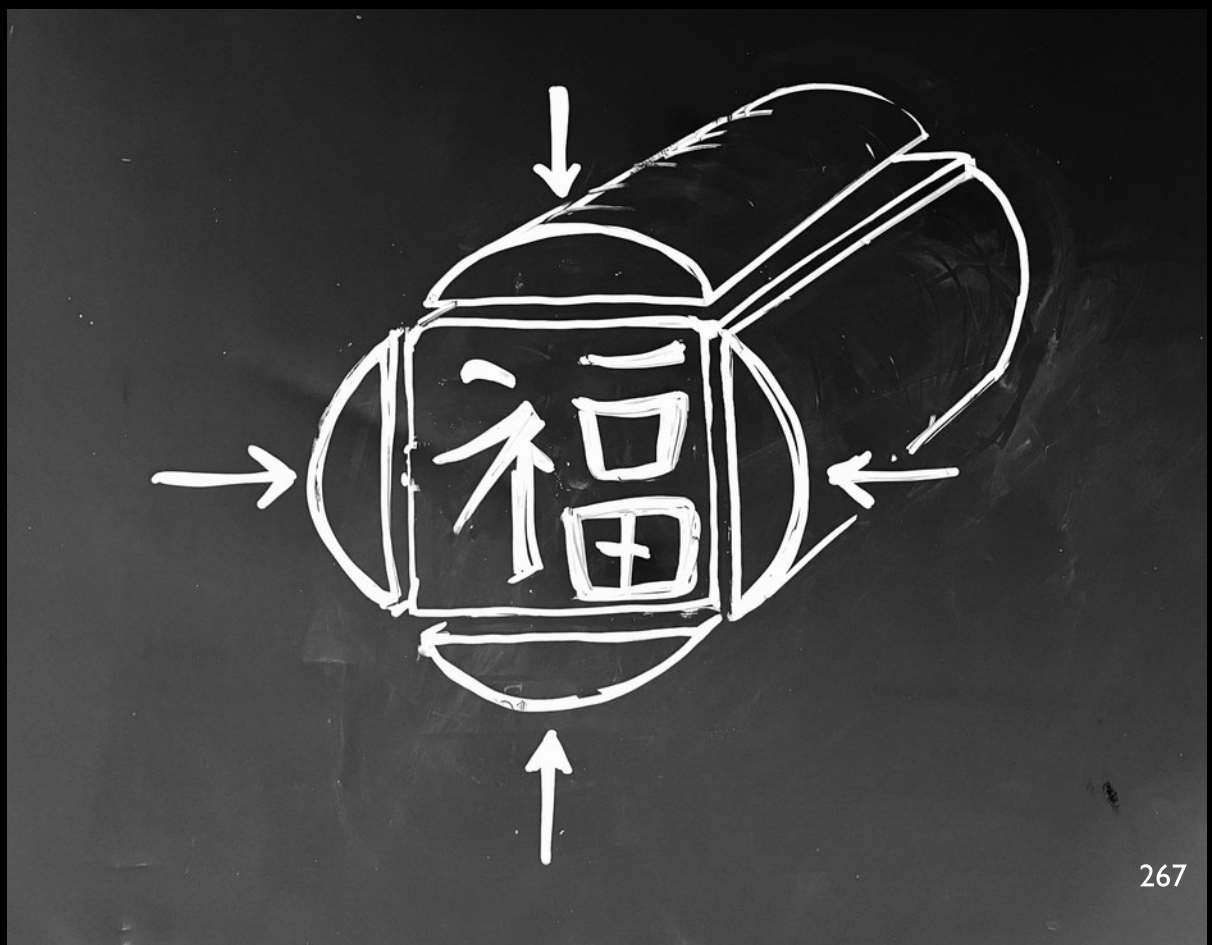
The letters are made short, then stretched to around 30cm and stuck together with a damp sponge. Thin white strips are made and stuck between the letters.

When the word or words are finished they are formed into a cylinder shape. A white casing is wrapped around to cover the letters and separate the letters from the outside colour. Usually a final coloured casing is wrapped around the white giving the candy its colour. Sometimes a clear casing is used to make a shiny white candy.

In the pictures (left and above) the words are shaped over a rolling pin before being stuck to the happy face design. Note the gaps between the words that have been filled with white candy before the white casing is wrapped around.

Make it round!

When a candy only contains letters / words, sometimes they will be stacked on top of each other. In this case we will make a thin sheet of white to go between the words so they do not touch and become hard to read.
If the candy is square, like in the pictures on these pages, we will need to make 4 sections of white that will be flat on on side, and curved on the other side, so when they are placed on the words, they will form a cylinder that can be rolled and then the final casing / wrap is added.



the casing / wrap

The colour that is wrapped around the candy is called the casing or wrap. This can be made from one colour or many colours. There are countless designs and colour combinations for the casing. We will usually have a wrap of white (stretched white) that is wrapped around the candy before we add the final casing, to separate the inside design from the outside colour. This wrap of white will be around 10% - 15% of the total candy.
The casing (outside colour) will usually be around 30% of the candy, so if you look at a finished candy from the front, the colour around the edge will be 30% - 40%. From the time we pour the sugar into the pans or onto the table to cool and add the colour, we know that from 30% to 40 % of the sugar will used for the casing / wrap / outside colour and we can colour our sugar with this in mind. A casing that is too thin will not look attractive, can make the product look cheaper and offers no options for designs inside the casing.

Stripes can be made blended or to be sharp and defined.

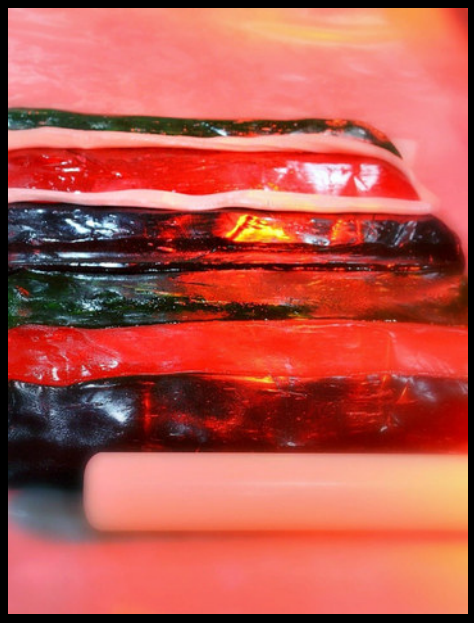
Pin stripes can be added for fine detail.

Small designs can be made and repeated around the outside.

The casing may also contain another ingredient such as chilli or black pepper.

If the wrap is turned sideways, then the candy will stretch out in one colour first and then the next colour. It is a great way to make two or three different coloured candies from the same batch.

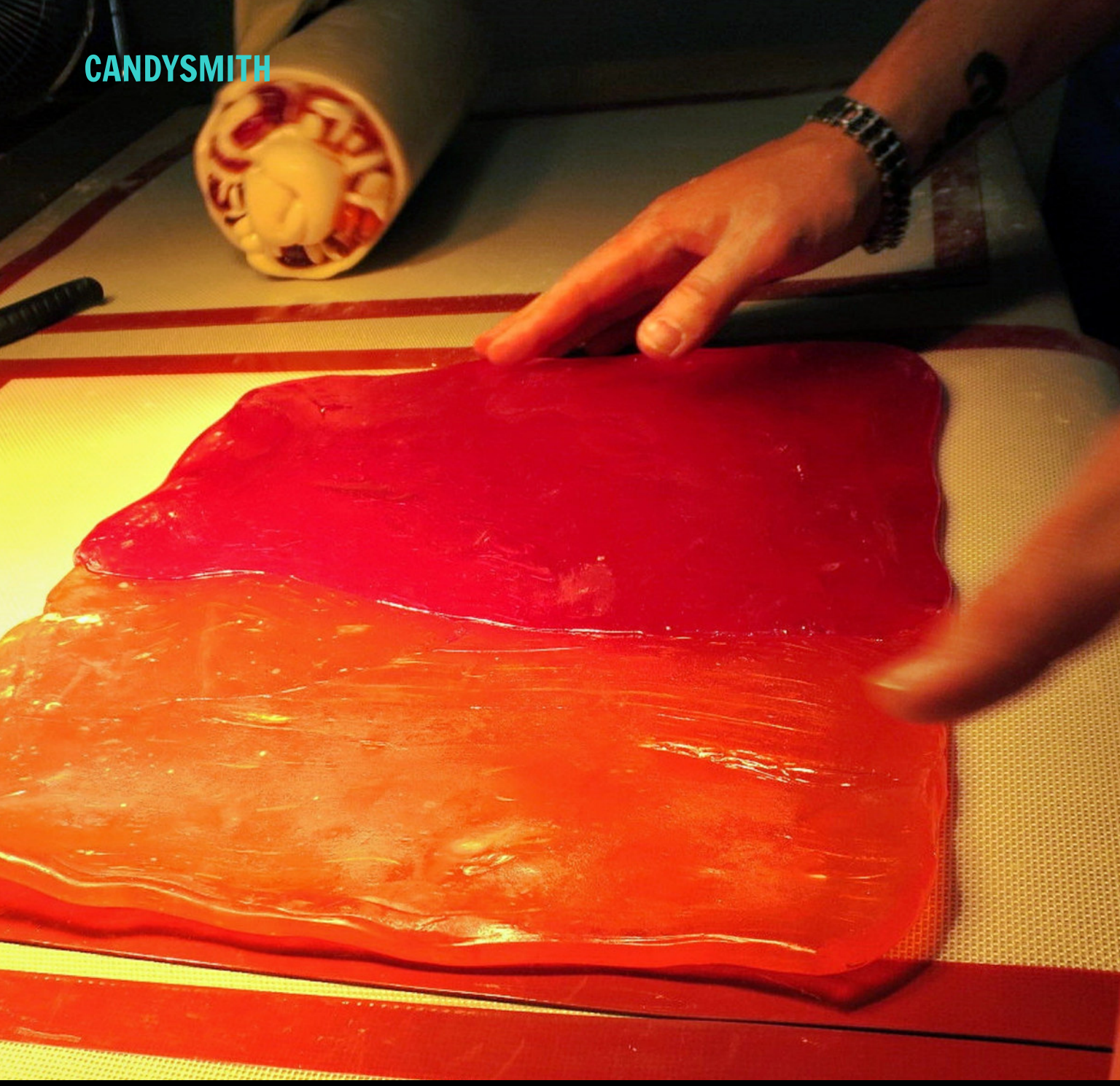
The colours are made into rectangle shapes, two of each colour, approx 35 cm long, and stuck together. A pin stripe of stretched white is added between the stripes. This pin stripe is added only to the outside of the casing in this example.



The casing is checked for size, then wiped with a damp (not wet) sponge. The centre is placed in the middle of the casing, which is then wrapped around and rolled until smooth.

The red tint in these photos, (left) is due to the red heat lamp that we were using for training in Malaysia. The candy was made in Malaysia, flown to Australia, then sent to Dubai..!

This candy made for a promotion for a company in UAE was wrapped with the colours of UAE, red, green and black, with a pin stripe of white to add a highlight to the finished candy.



We can make a wrap from two or more colours, then turn the wrap sideways before wrapping the candy.

In the example on this page, the candy will be wrapped then stretched, resulting in the half of the candies being orange colour, and half the candies being red colour. This is a great way for making two or three (or more) colours of candy from one batch.

CANDYSMITH

In the live demonstration picture (left) the candy has a rainbow casing / wrap. The colours have been overlapped to blend them and create even more colours! The result shown in the lower picture is amazing!
Only one batch of candy with a rainbow of colours! This is an easy way to create a great looking, attractive product in a short time.

The effects of stretching / pulling colours can be seen here. The candy will change from clear and transparent, to opaque, lighter in colour, and filled with thousands of tiny air bubbles that give the candy a lighter, crunchier texture.

We will sometimes add a small piece of stretched white candy to the colour before stretching to help make it even brighter.

It is important to understand the difference between using stretched or unstretched candy in various parts of the design.

Here, we have used the clear unstretched candy as a gloss wrap for the stretched part, so we get a nice deep colour with a shiny cover. The clear is not used underneath the wrap, as that part is inside the candy and is not seen.

When two colours are next to each other that have not been 'stretched' - pulled over the hook or by hand - it can be very difficult to see the difference between the colours. For example, red and green can both look almost black if used unstretched next to each other in a design. The light will hit these parts of the candy and go inside the candy and not reflect off anything because the candy is so small and is covered with a wrap / casing, so it is like light going into a tunnel - it looks dark. If the candy has been stretched, the tiny air bubbles cause the light to reflect off the front of the candy, so we can see the colour.

The rainbow casing / wrap has been made with stretched (pulled) candy covered with clear gloss candy. The candy had been made to produce rainbow striped pillow candy, with no letters or design inside.

stretching the candy into canes... (short rods of candy)

Once the candy has been rolled and is ready for stretching, the candy maker will squeeze and push and lean on the end of the candy, about 2 inches in from the end, at the same time they will be turning the roll over so as to keep the round shape and not flatten the candy roll on any side. The desired shape will be that of a wine bottle or a baseball bat. As it gets stretched more, there will be a big piece at the end that will be cut off. The candy maker will sometimes lift the candy off the hot table and use gravity to help create the wine bottle/ baseball bat shape. This is useful to make the 'show' look better and more exciting if there is an audience watching.

It is important to keep the big part of the roll from going flat by continuously rolling the candy and then stretching, rolling and stretching...and on and on until all the candy has been stretched out.
The thickness of the rods is up to the candy makers. Some will stretch thicker, and some shops will make thinner rods. This will then determine the size of the final candy. The 'mouth feel' must be considered, and some experimentation and testing will determine how thick you choose to stretch the rods.
The stretching is done by one person, the second person will be rolling the canes (rods of candy) on the rolling / cooling table. If you are working alone as I often do, I cut 2 or 3 canes / rods, then roll the canes to keep them round and not stuck together, then back to the stretching and rolling to keep the big candy from going flat.
The end piece that is cut off can be sold as is, or left under the heat lamp for a while to soften and (once all the candy has been stretched and rolled) can be stretched and rolled out and put through the pillow machine or hand cut into pillow shaped candy. The end piece alone may weigh up to 500g+, so we can cover the entire cost of ingredients in the candy, just by selling the end piece as pillow candy...$$

rolling the canes

As the rope of warm candy is stretched out, the diameter decreases in size, and we can stretch the candy to be as small as we like.
We will be looking for a diameter from 8mm up to 12mm.
The rods are cut to around 500mm long and rolled until hard.
We can use scissors to cut the rods or break them to length with a sharp strike from a bar, scissors or rolling pin. Some of the old school English rock makers will just use their fist.

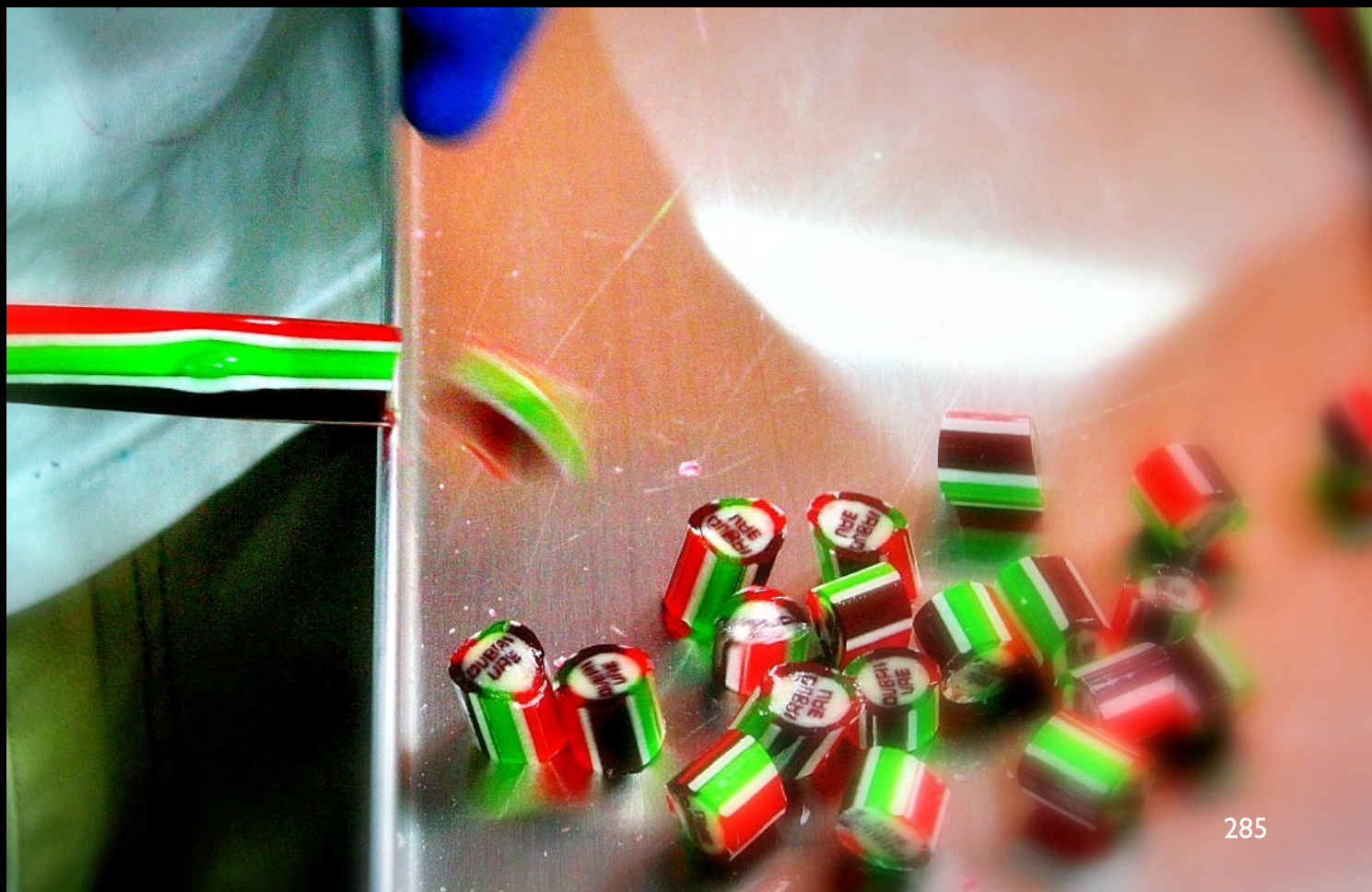
Dust a little corn starch over the rods to prevent sticking especially on humid days.

cutting the canes

The rods of candy are cut into smaller pieces over the edge of a block or steel bar, using a very sharp blade such as a knife, cleaver or sharpened scraper.
If the blade is not sharp, the candy will break unevenly.

This is a difficult part of the process to perform quickly, so it is important to be patient and watch the effects of changes in angles to the rod and the blade.

The blade should strike the candy above the edge of the cutting block. This will result in a straight cut. If the blade strikes the candy even 10mm away from the edge, an unevenly cut candy can be the result, which can be sharp and dangerous for your customers to eat.



Get it together!

Wedding celebrations, corporate promotions, business logos... the only limit is your imagination and a lot of practice!!

I have taught candy making all around the world, and making letters in another language is always a fun challenge!

Here are some examples of candy made with letters and / or a centre design (pages 288 - 299).

I ♥
EMMUNDI

PRIDE
PRIDE
PRIDE
PRIDE
PRIDE
PRIDE
PRIDE
PRIDE
PRIDE
PRIDE

Sale! on now!

blue?

COOLUM BEACH

CORCEOUS

KITCHEN crew
KITCHEN crew

W.T.F.

W.T.F.
W.T.F.
W.T.F.
W.T.F.
W.T.F.
W.T.F.

CANDYSMITH

COCO

TREV
DEE

CIVA
NINA

EASY AS ABC

ROCK STAR

Korean text made for demonstration during online training course.

Candy made while on location in Novosibirsk, Siberia.

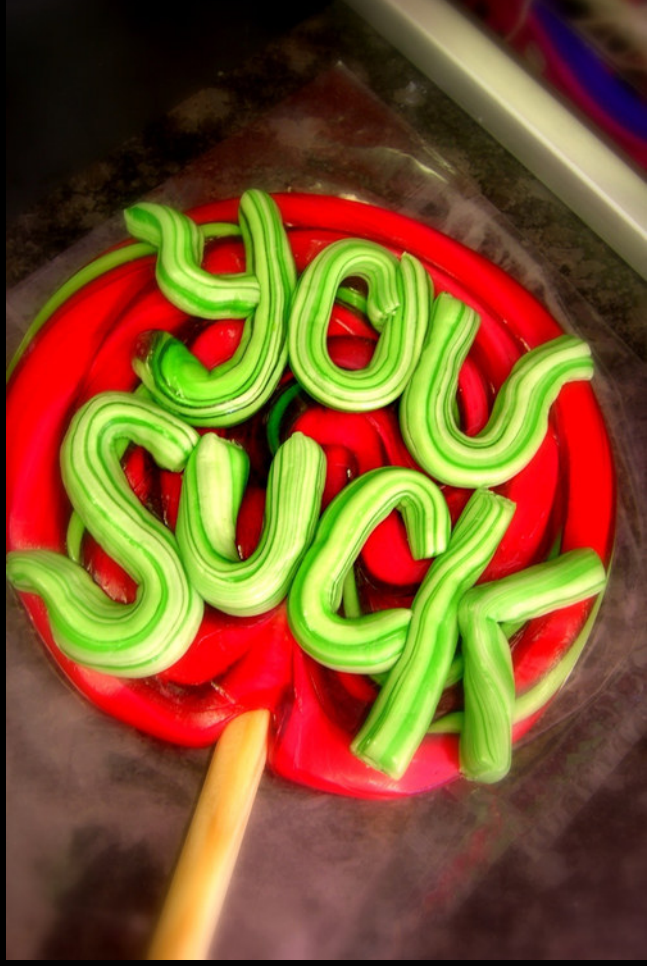
Letters in Arabic are written right to left.
The letters here are in the process of being made for the candy below as part of a training course in Saudi Arabia.

POPS AND SUCKERS

Pops and Suckers!

Made from a rope of candy formed into a simple shape such as circle or heart. Pops and suckers can be made in endless variations of colour, flavour and shape. Very popular for gifts, weddings and promotions. Adding a twist in the candy rope before forming the pop will give a lovely pattern to the colours. End pieces and offcuts can be made into pops and add more profit to your business. Large pops can have letters or initials added to customise even further.

Above left - Pop moulds hand forged into custom shapes such as squares, circles, hearts and diamonds. Forged from stainless steel, these moulds are made to last generations. Making your own equipment is very satisfying and rewarding, and allows you to create just what you need. Alternatives can be made using cookie cutter shapes, egg rings, and lids from old style tins. A small gap is cut into the cookie cutters, rings or lids to allow a pop stick to be pushed into the candy then pushed flat against the hot table. The pop mould is then lifted off without the pop stick being stuck.



Spiral up the candy and push a stick in. Simple and fast, the pops and suckers are a great way to turn off-cuts into profits.
'You Suck' giant pop made for last-place prize at a talent contest!
Below - small sections of rainbow canes made for pencil company promotion.

Simple cheap pop moulds can be made from cookie cutters.

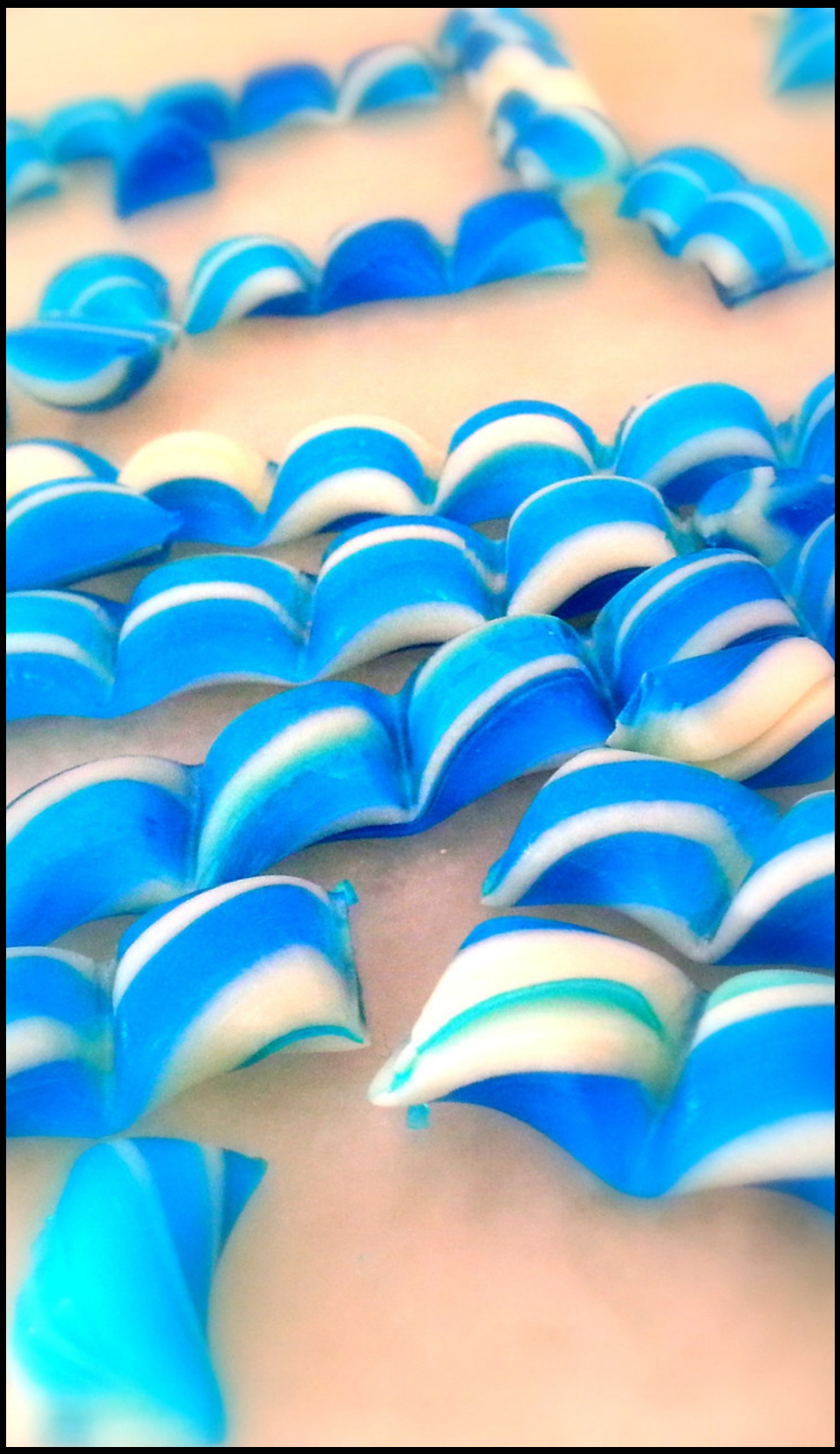
candy canes

Candy canes made for Christmas are an easy and popular product. They can be made in a wide variety of colours, flavours and sizes. A simple twist in the candy rope will add a nice shape to the stripes of green (see above)

The red, green and white stripes are a simple wrap / casing made and wrapped around a centre of pulled (over the hook) white, which will help to make the colours on the outside brighter, and the candy cane easier for customer to eat.

pillow candy

The candy can be shaped through rollers or cutting wheels into ‘pillow’ shaped candy, sometimes referred to as 'drops' (the original method of making drops was slightly different, however the basic idea and result are similar). A popular example of pillow shaped candy are the traditional humbug (black and white stripes) or bullseyes (red and white stripes). These are sometimes cut with scissors (or 'candy shears').
A humbug is usually cut with 90 degrees turn between each end. The candy below was hand cut in the humbug style.
These pillows (below) are made from the end rods/canes of the love heart candy as seen on page 106.



pillow candy cont'd...

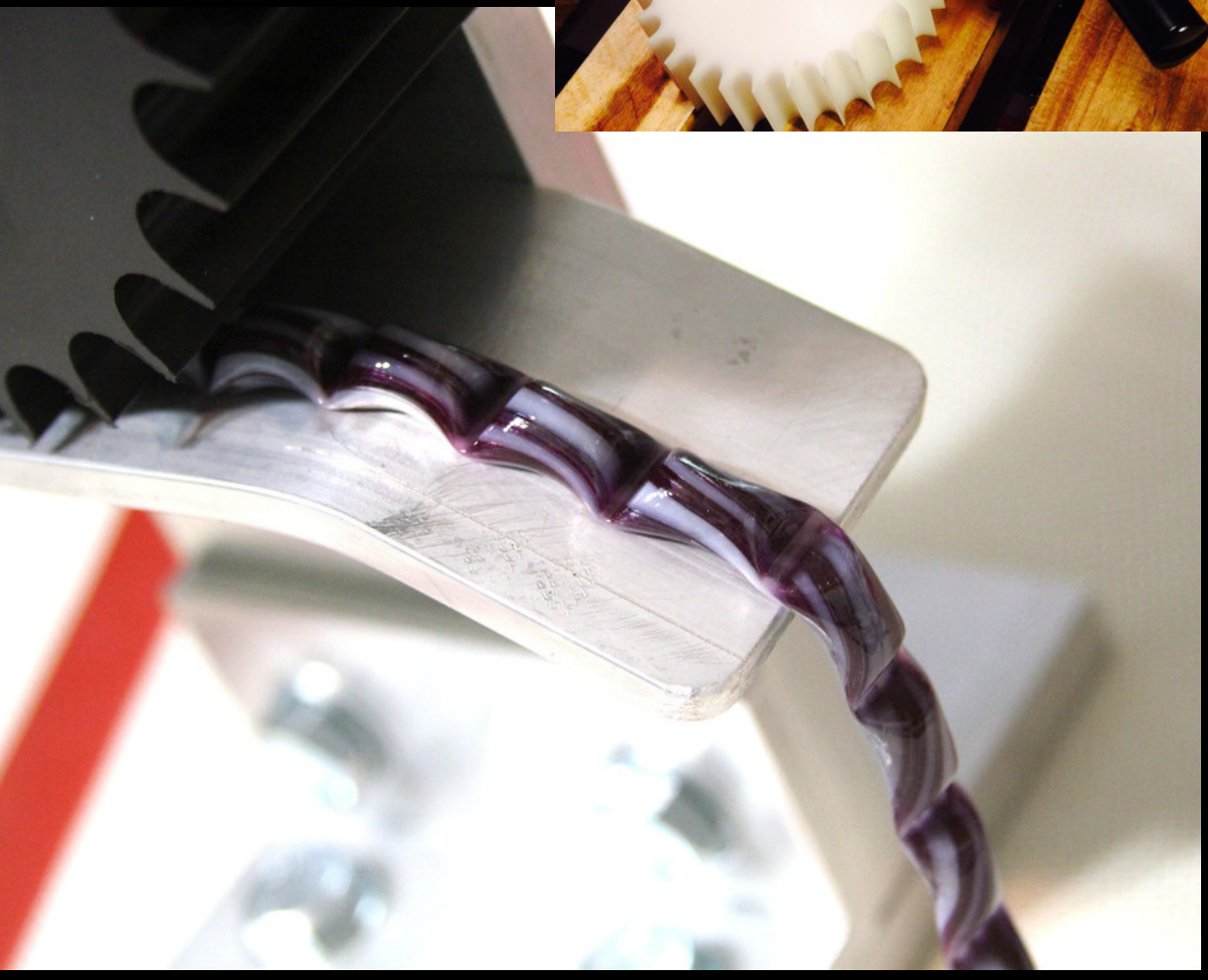
The candy recipe is made as usual, then formed without letters or pictures, then stretched into a thinner rod to feed through the rollers to shape the candy into 'pillows'. We can also use this machine to form candy that has a centre fill added before being fed through the rollers.

A machine / drop roller may be used to speed up the process that can be done by hand. There have been many designs of drop rollers over the last 150 years and there are countless designs for the shapes that can be made from the candy.

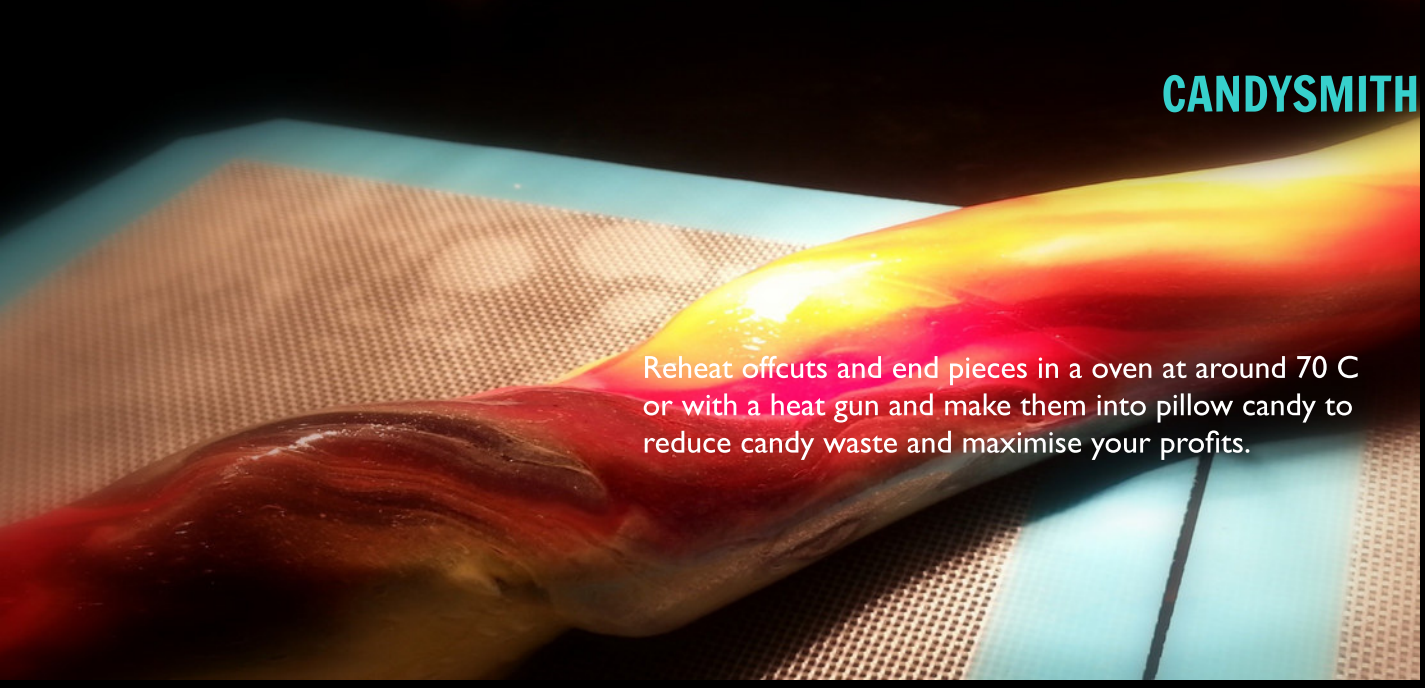
Some drop roller machines will take a wide sheet of candy through and shape the candy as it is fed between the rollers. The shaped candy sheet is then cooled and dropped onto a bench to break into many candies. Sometimes the drops are then finished in a big confectionery panning machine that looks like a cement mixer to take off all the sharp edges. The panning process is how some candy, beans and nuts are polished, choc-coated or dusted with sour acids or other various coatings applied.

CANDYSMITH

The original Kaptonhook 'Revolution' candy machine for making pillow shaped candy. Pictured with red anodised frame and two white cutting wheels.
There are many of these around the world in various candy shops now. I designed this machine to save time as I was cutting the pillow candy by hand for several years. It has two easy-change wheels for cutting different sized pillows.
Note: Now it also has been replicated by other equipment makers around the world! Nothing says success like imitation!



Another machine I made for forming pillow shaped candy. Also great for making filled candy. The thickness of the 'cut' is adjusted via the bolts in top. The machine is hand powered, great for mobile demonstrations, for extra safety and to save power!



Reheat offcuts and end pieces in a oven at around 70 C or with a heat gun and make them into pillow candy to reduce candy waste and maximise your profits.

butterscotch

To make butterscotch candy, we use raw sugar in place of white sugar, in any ratio you prefer. Maybe you prefer 50% raw and 50% white or 60% raw and 40% white sugar, or maybe you prefer to use 100% raw sugar. The warmer, richer flavour from using raw sugar will vary from brand to brand and also from the methods of processing the sugar, so try a variety of brands and types of raw and darker sugars to make the butterscotch candy.

To make 2000g (2kg) butterscotch pillows:

500g (500ml) filtered water
1000g white sugar
1000g raw sugar
600g liquid glucose or corn syrup
200g butter, diced and softened to room temperature
20ml butterscotch flavour

Butterscotch pillows made on Naxos in Greece with fresh local butter.

Boil sugar to 300 F, turn off heat, stir in flavour, then add butter one piece at a time, stirring with wooden spoon until all the butter is mixed in. The butter will give the candy a nice satin sheen.

Pour out of the pot into pans or onto an oiled marble slab. Cool and throw over the stretching hook a few times to add to the satin look, then once cooled to working temperature, the candy is stretched into rods, and run through the pillow machine or cut into pillows by hand with scissors.

sherbet recipe

10 parts icing sugar

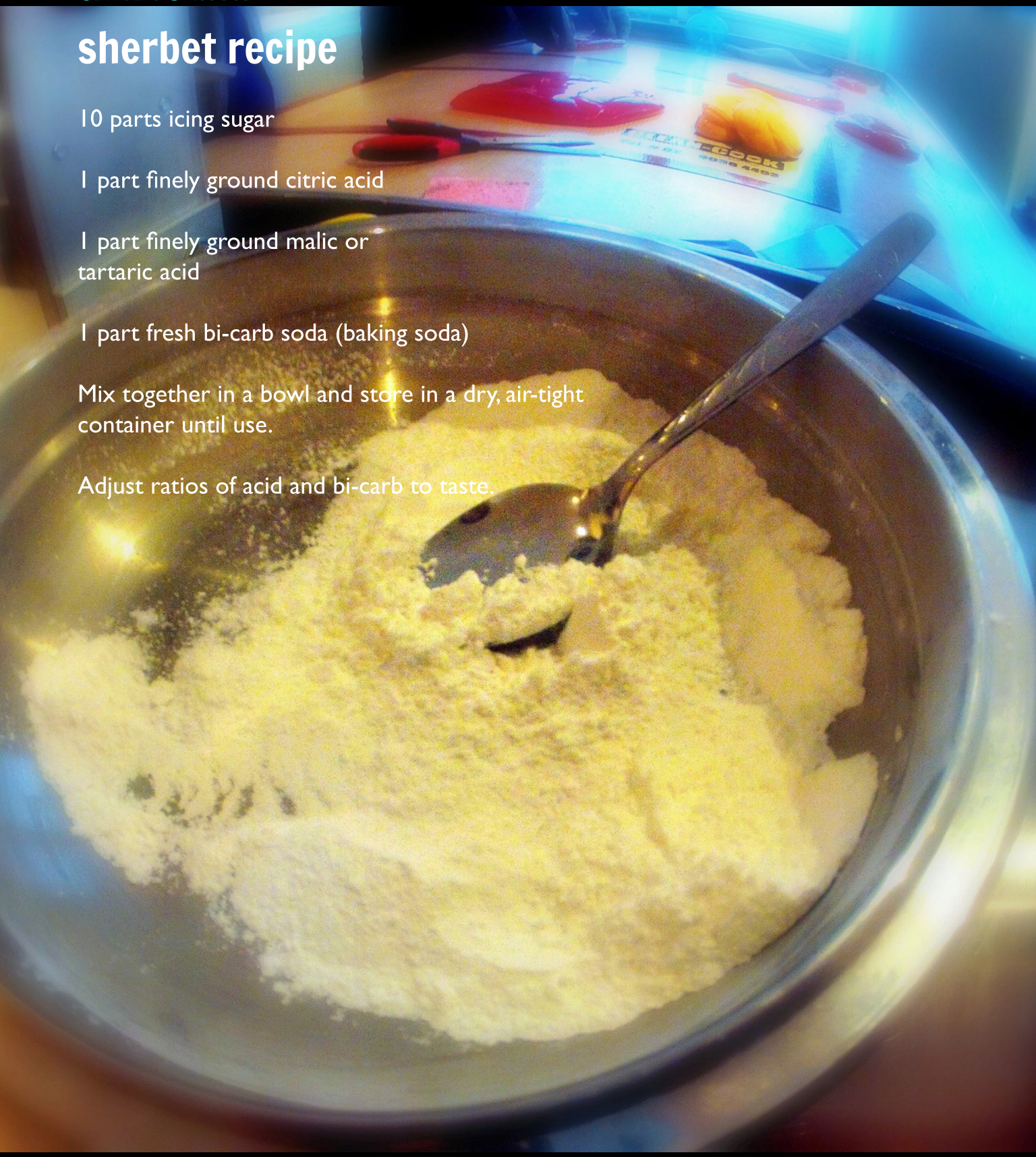
1 part finely ground citric acid

1 part finely ground malic or tartaric acid

1 part fresh bi-carb soda (baking soda)

Mix together in a bowl and store in a dry, air-tight container until use.

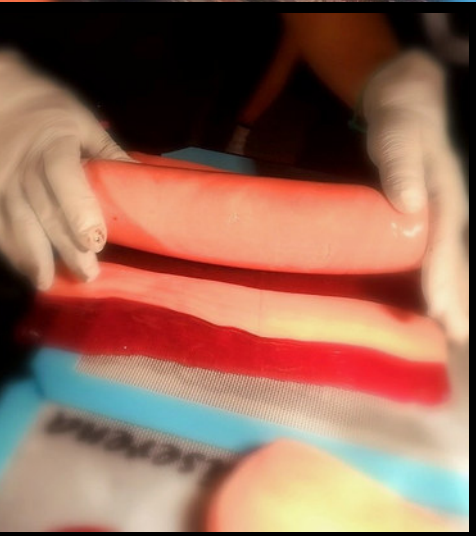
Adjust ratios of acid and bi-carb to taste.



The acid gives the powder the sour sharpness and the bi-carb soda makes it fizzy in your mouth. If the powder has a salty taste, then you have added too much bi-carb / baking soda.

Baking powder can be used rather than baking soda. Baking powder is bi-carb soda mixed with cream of tartar.

The sherbet powder must be kept dry, or it will absorb moisture from the air and will lose the fizz.



chocolate mix

10 parts coverture chocolate
1 part cocoa powder
1 part glucose / corn syrup
1 part cocoa butter (if available)

chocolate filled pillow candy

Chocolate work is an entire career in itself and I by no means wish to discuss the skills and techniques of working with chocolate in this hard candy book. For those wishing to explore the world of chocolate making, there are countless books and websites dedicated to all things chocolate. This is a quick recipe for you that will keep the chocolate soft and allow you to use it inside pillow candy.
You can add spices, coconut, nuts, chilli...whatever you can think of. Have fun and make a mess... :)

METHOD:
Melt the chocolate over a gentle double boiler (stainless steel bowl over a pot of steaming hot water) and add the cocoa powder, glucose syrup and cocoa butter, mixing until smooth. Flatten the candy out into a large square wrap and spoon the chocolate mix into the centre of the square. Dampen the edges of the candy and fold over the front and back, and seal the edges. Then roll until smooth, and carefully stretch the candy roll into a long thin rod, then run through the pillow machine or cut by hand with scissors.

The candy can be folded before stretching so there are more layers of candy and chocolate. There can also be another wrap / casing around the candy to help stop the candy roll from splitting and chocolate leaking out all over the table.

The original gourmet candy menu at Cane & Able, Coolum Beach, Australia

gourmet candy & extra ingredients

Some of the flavours we use can be used as a base for a combination, such as the addition of chilli to the lime oil flavour to make the 'chilli and lime' candy, or the addition of ground coffee to the aniseed candy, or adding salty spices to the pineapple rock.

After working with the candy for a while, we may start to think of the candy as a sculpting medium rather than a food. If we do remember to think of the candy as a food, we can open the doors to a wonderful world of flavours, gourmet ingredients and combinations limited only by our imagination and skill.

For a new candy, try adding marshmallows to the hot candy when it is still on the pouring table. Strawberry flavour candy with vanilla marshmallows is a favourite combination.

Drying cranberries under the heat lamp on the hot table before adding to the white chocolate and pistachio pillow candy.

CANDYSMITH

To make the musk and rose petal candy, the dried rose petals were soaked and re-dried, reserving the liquid to use in the boiling water. The crushed petals are then added to the candy on the pouring table. The heat from the sugar will release more of the oils from the petals and add to the flavour.
The crushed rose petals can be seen in the candy casing in the picture below.

Using gold leaf in candy, inspired by Middle Eastern traditional sweets. The gold is locally sourced and adds elegance and value to your creations.

Picture above - Good Fortune candy with orange oil, 5 spice and gold leaf.
Picture right - Prince symbol candy made for a candy bar at music industry awards after-party in California, USA.

As a cheaper option, in some cake decorating supply shops you will find edible glitter for cake decoration - just mix with a little vodka and apply with a paint brush.

honeycomb

Honeycomb is a quick and simple product to make, and seeing that you already have all the ingredients on hand, it can be added to your range as is, or broken even smaller and mixed into chocolate that is then used as a filling inside flavoured pillow candy.

honeycomb recipe

To make 2kg honeycomb:

water 500g

white super fine / caster sugar 2000g

liquid glucose /corn syrup 600g

25 teaspoon baking powder / bi-carb soda

Boil sugar to 300 F.
Turn off heat.
Add flavour if desired (coconut or vanilla can work very well).
Sift in baking powder and stir well with a wooden paddle.

CAUTION! The boiling honeycomb will rise up in the pot extremely quickly!!

Then pour out into cooled pans or onto a cooled and oiled marble slab. Cool quickly with help from a fan or coolroom.

Once cooled and hard, break apart with rolling pin or hammer.
Do not make honeycomb on very rainy or humid days. Do not pour honeycomb into warm pans or onto a hot pouring table.

Experiment with different flavours - try adding vanilla paste or cinnamon. Try adding one or two tablespoons of honey after the heat is turned off, before adding the soda, to give a richer honey taste.

packaging and storage

Coffee pouches are a popular choice for storage and retail presentation.
They are available in many combinations of clear/clear, silver/clear, kraft/clear and more.
They are air-tight and strong, with a resealable zip-lock closure.

'Crikey!' candy made for Australia Zoo mix

The coffee pouches we prefer are 'kraft' paper on one side and clear on the other side with a foil lining and zip-lock closure.
The dimensions of the bags in the photos are height 160mm x width 110mm.
The bags hold 130g of candy.
The bags are designed to be heat sealed above the zip lock closure.
Search online for 'coffee pouches' to find a local supplier.

Candy should be stored in airtight containers or bags to avoid problems from exposure to moisture in the air. The candy is *hygroscopic*, meaning it absorbs moisture, and any days that are rainy or humid can present problems as the candy starts to stick together after a short time if not packed away quickly.
The boiling of the sugar should be done in a room away from the making area, to avoid creating more humidity in the room.
We prefer to store cut candy in 1 or 2 kg bags to help with stock control.
The bags should be PP - polypropylene.
PP bags will keep out the air and the moisture.
Other bags like PE polyethylene, have been known to have a shorter storage time, due the possibility of moisture passing through the thin bag. Glass jars should have 'wadding' or lining under the lid to create a good airtight seal.

Candy should be stored in a cool, dry place away from direct sunlight, and should not be stored in the refrigerator.
If the candy is stored in the refrigerator, when removed, condensation may occur and make the candy very sticky!!

And no one wants sticky candy.

Large 'Kraft' bags are available for packing and storage of larger quantities of candy up to 1kg or more. Great for sales to customers who are packing the candy themselves.

CANDYSMITH

Choc-mint tiger paws for the Aussie Zoo mix, packaged in air-tight resealable 'kraft' coffee pouches.
Below - chilli and lime candy packaged into clear plastic tubs. These food-grade tubs have a 'wadding' under the lid to keep the contents air-tight. They are very useful to offer to customers who may be travelling and do not want to travel with glass.
Clear stickers were used on the jars so the colours of the candy could be seen.
Pictured right - Greek flag candy. Here the candy is being 'sifted' in a large Chinese steamer basket - perfect to remove any small chips and dust from the cutting process before packaging.

Greek flag candy made while on location in Naxos, Greece. Ouzo flavoured, of course!

CANDYSMITH

Packing and storage cont'd...

A range of jars and bags on display at a local farmers market. Local markets are a very good way to meet customers, get feedback on new flavours, and promote custom candy orders for weddings and businesses.

Silica gel is a drying agent packed into small bags that can help keep moisture content in packaging to a minimum. Available in very small bags that can fit into small jars and bags. The difference it will make to the shelf life of your candy is huge, especially in humid regions. This is a must-have in your kitchen.

This is not a book about sugar, or a book about all types of confectionery. Nor is it a book about high volume production or a book about how to run a franchise.
This is a book written as an artist, for artists... designed to inspire, to motivate, to create a spark that hopefully will lead you on a new and exciting journey of discovery and creativity, fueled by the need to do it for yourself. I hope that within these pages you find the instruction and inspiration you need to keep going and keep you working long into the night...

NOTES

CANDYSMITH

The ultimate guide to making words and pictures in hard candy. Including recipes, equipment, blueprints, candy plans and step by step instructions from boiling sugar right through to making custom candy orders. With updated recipes, more detailed photos and new plans, this book is a must have for any artisan candy maker.

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